

Mercer County Mosquito Control Unit

General Mosquito Question and Answer Sheet

What does the agency do?

As one of the oldest mosquito control agencies in the state of New Jersey, Mercer County Mosquito Control's integrated program has been protecting the residents of Mercer County from mosquito-borne diseases through public education, surveillance and control of mosquitoes.

The agency performs "all acts which in its opinion may be necessary for the elimination of mosquito breeding areas, or which will tend to exterminate mosquitoes within the county." A comprehensive surveillance program guides the agencies activities and control is emphasized on the elimination of mosquito-breeding habitat and eradication of mosquitoes when they are still in the aquatic stages of their development.

Surveillance for mosquito borne diseases concentrates on the newly introduced West Nile virus, but may also include Eastern equine encephalitis and St. Louis encephalitis.

What control efforts are utilized by the agency?

In order to accomplish long-range and environmentally sound mosquito control, MCMC employs an Integrated Pest Management (IPM) approach. This program incorporates many pest control methods including vector surveillance, breeding source prevention and reduction, biological and chemical control, and public education. With an IPM strategy, control efforts focus primarily on the immature, water-borne stages of the mosquito. The immature stages are generally confined to an aquatic microhabitat and are easier to treat since they cannot escape control measures.

The primary insecticide used to control the immature stage is a biorational larvacide, which uses bacteria called *Bacillus thuringiensis israelensis* (Bti) to specifically target mosquito larvae. Mosquitoes feed on the bacteria, which then releases a crystallized toxin that ruptures the larvas stomach and causes death. Another target specific larvacide uses another bacteria called *Bacillus sphaericus* (Bs) for the same purpose. At times, an insect growth regulator that mimics naturally found hormones in mosquito larvae are used to suspend and damage the developmental stages of the immature mosquitoes. Biological control measures are also taken by utilizing different fish species to control larval populations in enclosed aquatic habitats. The state of New Jersey has established a statewide mosquito fish program that uses resources from the Division of Fish and Game to provide larvivorous fish (Fathead Minnows) to counties as needed. In addition to Fathead minnows, the program also offers other species of fish for mosquito control, including *Gambusia affinis*, as well as species of sunfish. Chemical control measures are also taken by using the larvicides listed on our website.

A mineral oil derivative is also used from time to time, which is mainly used as a pupacide in aquatic habitats. As a last resort, a synthetic pyrethroid is used as an adulticide if unusually large numbers of adult mosquitoes are present and public health is threatened. All pesticide applications comply with guidelines recommended for mosquito control in New Jersey by the Agricultural Experiment Station of Rutgers University and regulations set forth by the NJ Department of Environmental Protection. The agency also conducts year round water management and source reduction projects that eliminate standing water. MCMC has adopted strategies, in accordance with New Jersey Department of Environmental Protection's Best Management Practices (BMP), to reduce mosquito-breeding habitat by physically managing water's flow. This can range from removing logjams and blocks from a waterway, cleaning of detention and retention basins to ensure proper drainage, stream clearance and environmentally friendly beaver management. Although most water management activities are conducted during the winter in preparation for the approaching season, management is also undertaken as needed during the summer season. Tire collections and removal have also been incorporated to reduce habitat areas for container breeding mosquitoes.

When is the agency active?

Mosquito control is a year round activity. Generally, the seasonal control operations start in March with the hatching of snowpool mosquito species and continue into November until the temperatures drop significantly. Although MCMC is most active during the summer season, many activities are also undertaken during the winter. Follow-up record keeping on the season's mosquito activity at all the breeding sites continues beyond the active mosquito season. The inspection routes are revised, surveillance data analyzed to identify areas of high mosquito populations and virus activity, appropriate permits are pursued, equipment is maintained, and plans and protocols revised for the following season. Public education is also another important component of the activities of MCMC. Agency personnel are available for mosquito education presentations at local schools, community and civic centers.

What can homeowners do?

Homeowners can provide effective control by eliminating standing water on their property. Any container holding water is a potential mosquito-breeding source and is likely to cause problems around the house. Of particular concern are clogged gutters and scattered tires. Both tend to collect leaves, then fill with water and provide very attractive sites for mosquitoes to breed. Since these containers are water tight, they dry out very slowly and are generally the cause of mosquito problems around the home. Gutters should be kept clean and other containers removed or overturned to limit mosquito-breeding sites. Items such as dog water bowls, horse-watering troughs, and birdbaths should be emptied and refilled at least once a week.

Small depressions in the yard can be filled to prevent the accumulation of water. If larger wet areas exist on the property, they should be brought to the attention of the MCMC.

Keeping adult mosquitoes out of the home is another step. Homeowners should make sure that window and door screens are properly fitted and holes patched to prevent mosquitoes from entering the home.

Personal protective measures should also be undertaken to limit exposure to mosquitoes as much as possible. Limit outdoor activities during the dawn and dusk hours when most species of mosquitoes are active. If outdoor activity is necessary, wear long sleeve clothing to limit exposure areas to mosquitoes. US EPA registered repellents are available

to provide relief from mosquitoes and other biting insects. Most repellents contain the same active ingredient, and are readily available at a variety of stores. Repellents are generally effective but caution should be used and manufacturers directions followed carefully.

What pesticides are used to control mosquitoes in Mercer County?

The majority of the pesticides used are products to control mosquito larvae in the water. However, it is sometimes necessary to use pesticides to control adult mosquitoes. For more information regarding the specific pesticides used, please refer to the accompanying product labels.

Where can I find more specific information on mosquito spraying in Mercer County and how will I be notified of the spraying?

The community will be notified of any adulticiding activity in Mercer County, whether by ground or aerial applications, through announcements in two local newspapers (*The Trentonian* and *The Times of Trenton*), via the MCMC Hotline (609-530-7501), and also the agencies web site (below). Any citizen has the right to ask the MCMC for specific information about a planned application in the county prior to the application and can subscribe to our email list by visiting our website.

How can county residents contact the MCMC ?

If mosquitoes present a problem in your area, or you would like a site inspected by division personnel, the below contact information may be used.

Mercer County Mosquito Control Unit

300 Scotch Road

West Trenton, New Jersey 08628

Tel: 609-530-7501

Fax: 609-530-8956

Email: mercermosquito@mercercounty.org

Website

<https://www.mercercounty.org/departments/transportation-and-infrastructure/mosquito-control/current-happenings>

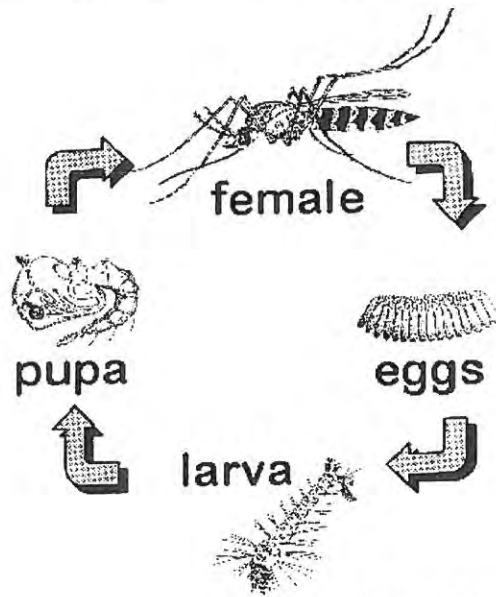
All complaints and general calls are promptly investigated, with follow ups conducted to ensure that the problem does not persist.

*****Municipalities are encouraged to share this information with all residents in their community*****

Mosquitoes...What Everyone Should Know

What is the life cycle of mosquitoes?

Mosquitoes of different species lay their eggs in a variety of water sources that range from small containers to vast expanses of marshland. The larval stage is always aquatic and shuttles from the subsurface where it filter feeds on micro-organisms to the surface to obtain oxygen through a snorkel-like breathing apparatus. The pupal stage does not feed but unlike most insect pupae is extremely active. The adult emerges from the pupal case using air pressure and assumes a terrestrial existence.



Drawing by Brett Crans

Mosquitoes have four stages of development: egg, larva, pupa and adult. As mentioned, they spend their larval and pupal stages in water. Female mosquitoes of most pest species in Mercer County deposit eggs on moist surfaces such as mud or fallen leaves. Rain refloods these surfaces and stimulates the hatching of the eggs, thus starting the life cycle. Other mosquito species in the county lay their eggs on the surface of permanent water and since the water is constantly present, there are always eggs hatching and larvae developing. Mosquitoes take approximately one week to develop from egg to the flying adult. After emerging from the aquatic stages, adult mosquitoes mate and the females seek a blood meal to obtain nutrients necessary for egg development. Only the female adult bites, while both sexes utilize sugar sources for general nutrient requirements. While various species differ significantly, the average life expectancy for adult mosquitoes is 4-6 weeks during the summer.

How many kinds of mosquitoes are there?

About 3000 species of mosquitoes have been described on a world-wide basis with approximately 150 known to occur in North America. The term "Mosquito State" is appropriate for New Jersey because 64 species of mosquitoes have been found within its boundaries, to date. Only 25 of those species have been documented in Mercer County so far. This number may rise as the surveillance and identification efforts of the county continue.

Why do mosquitoes bite?

Mosquitoes belong to a group of insects that require blood to develop fertile eggs. Males do not lay eggs, thus, male mosquitoes do not bite. The females are the egg producers and "host-seek" for a blood meal. Female mosquitoes lay multiple batches of eggs and require a blood meal for every batch they lay. Few people realize that mosquitoes rely on sugar as their main source of energy. Both male and female mosquitoes feed on plant nectar, fruit juices and liquids that ooze from plants. The sugar is burned as fuel for flight and is replenished on a daily basis. Blood is reserved for egg production and is imbibed less frequently.

Why do mosquitoes leave welts when they bite?

When a female mosquito pierces the skin with her mouthparts, she injects a small amount of saliva into the wound before drawing blood. The saliva makes penetration easier and prevents the blood from clotting in the narrow channel of her food canal. The welts that appear after the mosquito leaves is not a reaction to the wound but an allergic reaction to the saliva injected to prevent clotting. In most cases, the itching sensation and swellings subside within several hours. Some people are highly sensitive and symptoms persist for several days. Scratching the bites can result in infection if bacteria from the fingernails are introduced to the wounds.

Can mosquitoes carry diseases?

Any insect that feeds on blood has the potential of transmitting disease organisms from animal to human. Mosquitoes are highly developed blood-sucking insects and are the most formidable transmitters of disease in the animal kingdom. Mosquito-borne diseases are caused by human parasites that have a stage in their life cycle that enters the blood stream. The female mosquito picks up the blood stage of the parasite when she imbibes blood to develop her eggs. The parasites generally use the mosquito to complete a portion of their own life cycle and either multiply, change in form inside the mosquito or do both. After the mosquito lays her eggs, she seeks a second blood meal and transmits the fully developed parasites to the next unwitting host. Malaria is a parasitic protozoan that infects the blood cells of humans and is transmitted from one human to the next by *Anopheles* mosquitoes. Encephalitis is a virus of the central nervous system that is passed from infected birds to humans by mosquitoes that accept birds as blood meal hosts in addition to humans. Yellow fever is a virus infection of monkeys that can either be transmitted from monkey to human or from human to human in tropical areas of the world. Dog heartworm is a large filarial worm that lives in the heart of dogs but produces a blood stage small enough to develop in a mosquito. The dog heartworm parasite does not develop properly in humans and is not regarded as a human health problem. A closely

related parasite, however, produces human elephantiasis in some tropical areas of the world, a debilitating mosquito-borne affliction that results in grossly swollen arms legs and genitals.

Can mosquitoes transmit AIDS?

The HIV virus that produces AIDS in humans **does not** develop in mosquitoes. If HIV infected blood is taken up by a mosquito the virus is treated like food and digested along with the blood meal. If the mosquito takes a partial blood meal from an HIV positive person and resumes feeding on a non-infected individual, insufficient particles are transferred to initiate a new infection. If a fully engorged mosquito with HIV positive blood is squashed on the skin, there would be insufficient transfer of virus to produce infection. The virus diseases that use insects as agents of transfer produce tremendously high levels of parasites in the blood. The levels of HIV that circulate in human blood are so low that it is unlikely for a mosquito to pick up any sufficient numbers for a secondary infection.

For more information on mosquitoes and mosquito-borne diseases, please visit the following sites:

American Mosquito Control Association - <https://www.mosquito.org/>

NJ Mosquito Control Association - <https://njmca.org/>

NJ Department of Health - <https://www.nj.gov/health/cd/topics/mosquitoborne.shtml>

CDC - <https://www.cdc.gov/niosh/topics/outdoor/mosquito-borne/default.html>



ANVIL® 2+2 ULV

Contains an Oil Soluble Synergized Synthetic Pyrethroid for Control of Adult Mosquitoes (Including Organophosphate-Resistant Species) Midges, and Black Flies in Outdoor Residential and Recreational Areas.

For use only by federal, state, tribal or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform adult mosquito control applications, or by persons under their direct supervision.

ACTIVE INGREDIENTS:

3-Phenoxybenzyl-(1RS, 3RS; 1RS, 3SR)-2,2-dimethyl-3-(2-methylprop-1-enyl) cyclopropanecarboxylate	2.00%
*Piperonyl Butoxide	2.00%
**OTHER INGREDIENTS	96.00%
	100.00%

Contains 0.14 lbs. Technical SUMITHRIN®/Gallon and 0.14 lbs. Piperonyl Butoxide/Gallon * (butylcarbityl)(6-propylpiperonyl) ether and related compounds

**Contains a petroleum distillate

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta haya sido explicado ampliamente

FIRST AID

IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
IF SWALLOWED:	<ul style="list-style-type: none"> Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or a doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN

Contains petroleum distillate - vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For information regarding medical emergencies or pesticide incidents, call 1-888-740-8712.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Harmful if absorbed through the skin. Avoid contact with skin, eyes and clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are: barrier laminate or Viton. Mixers, loaders, applicators, and other handlers must wear long-sleeve shirt, long pants, shoes and socks. In addition, all handlers except for applicators using motorized ground equipment, pilots, and flaggers, must wear chemical-resistant gloves. See engineering controls for additional requirements.

USER SAFETY REQUIREMENTS

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent material that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

ENGINEERING CONTROLS

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker

Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)].

USER SAFETY RECOMMENDATIONS

Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. User should remove clothing/PPE immediately if pesticide gets inside, then wash thoroughly and put on clean clothing. User should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic organisms, including fish and aquatic invertebrates. Runoff from treated areas or deposition of spray droplets into a body of water may be hazardous to fish and aquatic invertebrates. Before making the first application in a season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist. Do not apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material beyond the body of water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or wash waters.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply to or allow drift onto blooming crops or weeds when bees are visiting the treatment area, except when applications are made to prevent or control a threat to public and/or animal health determined by a state, tribal or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

USE RESTRICTIONS:

IN CALIFORNIA: This product is to be applied by County Health Department, State Department of Health Services, Mosquito and Vector Control or Mosquito Abatement District personnel only.

IN FLORIDA: Aerial applications of this product require trained personnel to perform industry accepted assays to monitor resistance formation in targeted mosquitoes.

Do not treat a site with more than 0.0036 pounds of Sumithrin® or piperonyl butoxide per acre in a twenty-four hour period. Do not exceed 0.1 pounds of Sumithrin® or piperonyl butoxide per acre in any site in one year. More frequent applications may be made to prevent or control a threat to public and/or animal health determined by a state, tribal or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

NOTE: When rotating products with other insecticides containing PBO, do not exceed 2 lbs PBO per acre per year.

Not for use in outdoor residential misting systems.

USE INFORMATION:

USE AREAS: For use in mosquito adulticiding programs involving outdoor residential and recreational areas where adult mosquitoes are present in annoying numbers in vegetation surrounding parks, woodlands, swamps, marshes, overgrown areas and golf courses. ANVIL 2+2 ULV may be applied over agricultural areas for the control of adult mosquitoes within or adjacent to these areas.

For best results, apply when mosquitoes are most active and weather conditions are conducive to keeping the fog close to the ground. Application in calm air conditions is to be avoided. Apply only when ground wind speed is greater than 1 mph. Air temperature should be greater than 50 °F when conducting all types of applications.

NOTE: ANVIL 2+2 ULV cannot be diluted in water. Dilute this product with light mineral oil if dilution is preferred.

SPRAY DROPLET SIZE DETERMINATION

Ground Equipment: Spray equipment must be adjusted so that the volume median diameter (VMD) is less than 30 microns (Dv 0.5 < 30 um) and that 90% of the spray is contained in droplets smaller than 50 microns (Dv 0.9 < 50 um). Directions from the equipment manufacturer or vendor, pesticide registrant, or a test facility using a laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

Aerial Equipment: Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns (Dv 0.5 < 60 um) and that 90% of the spray is contained in droplets smaller than 80 microns (Dv 0.9 < 80 um). The effects of flight speed and, for non-rotary nozzles, nozzle angle on the droplet size spectrum must be considered. Directions from the equipment manufacturer or vendor, pesticide registrant, or a test facility using a wind tunnel and laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

GROUND ULV APPLICATION

Apply ANVIL 2+2 ULV through a standard ULV cold aerosol or non-thermal aerosol (cold fog) generator. Consult the following table for examples of various dosage rates using a swath width of 300 feet for acreage calculations. Vary flow rate according to vegetation density and mosquito population. Use higher flow rate in heavy vegetation or when pest populations are high.

ANVIL 2+2 ULV may also be applied undiluted with non-thermal, portable, motorized backpack equipment adjusted to deliver ULV particles of less than 100 microns VMD. Use 1.081 to 3.245

Dosage Rate (Lbs. Sumithrin® / acre)	Fl.oz. ANVIL 2+2 ULV per Acre	Flow Rates in fluid oz./minute at truck speeds of:			
		5 MPH	10 MPH	15 MPH	20 MPH
0.0036	3.245	9.8	19.7	29.5	39.3
0.0024	2.163	6.6	13.1	19.7	26.2
0.0012	1.081	3.3	6.6	9.8	13.1

fl. oz. of the undiluted spray per acre (equal to 0.0012 to 0.0036 lb. a.i./acre) as a 50 ft. (15.2 m) swath while walking at a speed of 2 mph (3.2 kph). Do not use hand held equipment for this type of application in enclosed spaces.

ANVIL 2+2 ULV may be applied through truck mounted thermal fogging equipment. Do not exceed the maximum rates listed above. May be applied at speeds of 5 to 20 mph. To reduce oil requirement and sludge buildup in equipment, use 100-second viscosity mineral "fog" oil. For use with hand-carried foggers, use same rates of active ingredient per acre. Do not wet foliage since oil base formulations may be phytotoxic. Use a clean, well-maintained and properly calibrated fogger. Fog downwind. Do not use hand held equipment for this type of application in enclosed spaces.

AERIAL APPLICATION

ANVIL 2+2 ULV may be applied at rates of 1.081 to 3.245 fluid ounces ANVIL 2+2 ULV per acre by fixed wing or rotary aircraft equipped with suitable ULV application equipment.

RELEASE HEIGHT FOR AERIAL: Fixed Wing: Apply using a nozzle height of no less than 100 feet above the ground or canopy. Rotary Wing: Apply using a nozzle height of no less than 75 feet above the ground or canopy.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage and disposal.

PESTICIDE STORAGE: Store in a cool, dry place. Keep container closed.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with mineral oil and recap. Shake for 10 seconds. Pour rinsate into application equipment or a rinse tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

CONTAINER DISPOSAL: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into rinsate collection system. Repeat this rinsing procedure two more times. Offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

NOTICE: To the extent provided by law, Seller makes no warranty, expressed or implied, concerning the use of this product other than as indicated on the label. Buyer assumes all risk of use and/or handling of this material when use and/or handling is contrary to label instructions.

ANVIL™ is a Trademark of Clarke Mosquito Control Products, Inc.

Sumithrin © is a Trademark of Sumitomo Company, Ltd.

Manufactured For:

CLARKE MOSQUITO CONTROL PRODUCTS, INC.
159 N. GARDEN AVENUE
ROSELLE, ILLINOIS 60172 U.S.A
FOR MORE INFORMATION CALL: 1-800-323-5727

EPA Reg. No.: 1021-1687-8329

EPA Est. No.: _____

NET CONTENTS: [] 2.5 GAL [] 30 GAL [] 55 GAL [] 275 GAL

LOT No.: _____



SAFETY DATA SHEET

ANVIL[®] 2 + 2 ULV

Effective Date: 1 June 2015

v.01

Page 1 of 7

SECTION 1. Identification of the Substance/Mixture and of the Company

Product Identifier

Formulation Identifier: ANVIL[®] 2 + 2 ULV

EPA Registration Number: 1021-1687-8329

Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Relevant identified uses: Insecticide for control of adult mosquitoes.

Uses advised against: See product label for use restrictions

Details of the Supplier

Clarke Mosquito Control Products, Inc.

675 Sidwell Court

St. Charles, IL 60174 U.S.A.

+1 (630) 894-2000

Email: Clarke@clarke.com

Emergency Telephone Number

24 Hour MEDICAL Emergency: SafetyCall[®]: (888) 740-8712 or (952) 852-9509

24 Hour TRANSPORTATION Emergency: CHEMTREC[®]: (800)-424-9300

International: (703) 527-3887

SECTION 2. Hazards identification

United States (US)

According to OSHA 29 CFR 1910.1200 HCS (2012)

Classification of the Substance or Mixture

Acute Toxicity (Inhalation): Category 4

Aspiration Toxicity: Category 1

Pictogram:



Signal Word: DANGER

Hazard Statements: Harmful if inhaled
May be fatal if swallowed and enters airways.

Precautionary Statements:

PREVENTION: Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in well-ventilated area

RESPONSE: IF INHALED- Remove victim to fresh air and keep at rest in a position for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.

STORAGE: Store in a well ventilated place. Keep container tightly closed.

DISPOSAL: Dispose of contents/container to an approved waste disposal plant.

Other Hazards Not Classifiable Under OSHA 2012 HCS - Not applicable

SECTION 3. Composition/Information on Ingredients



SAFETY DATA SHEET

ANVIL[®] 2 + 2 ULV

Effective Date: 1 June 2015

v.01

Page 2 of 7

Components

Substance Name	CAS No.	Concentration % w/w
SUMITHRIN [®] (d-Phenothrin)	26002-80-2	2.0
Piperonyl Butoxide (PBO)	51-03-6	2.0
Petroleum distillates, hydrotreated light	64742-47-8	25 – 40 *
White mineral oil	8042-47-5	60 – 75 *

* The exact percentage (concentration) of composition has been withheld as trade secret.

Ingredients not identified are non-hazardous and/or are not required to be disclosed pursuant to 29 CFR 1910.1200 (2012), and are withheld as trade secret.

SECTION 4. First Aid Measures

Description of First Aid Measures

- Eye contact: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes then continue rinsing. Call a poison control center/doctor for treatment advice.
- Skin Contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- Ingestion: If swallowed, IMMEDIATELY call a poison control center or doctor for treatment advice. DO NOT give any liquid to the person. Do not induce vomiting unless told to do so by a poison control center or doctor. Never give anything by mouth to an unconscious person.
- Inhalation: Remove affected person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
- Treatment: For skin effects, a highly efficient therapeutic agent for Pyrethrin/Pyrethroid exposure is topical application of Tocopherol Acetate (Vitamin E).

Most Important Symptoms and Effects, both Acute and Delayed

The most important known symptoms and effects are described in section 2 and/or in section 11.

Indication of Immediate Medical Attention and Special Treatment

No data available.

SECTION 5. Fire-Fighting Measures

Extinguishing Media

Suitable Extinguishing Media: Water Fog, Carbon Dioxide (CO₂), Dry Chemical, foam

Unsuitable Extinguishing Media: Do not use water jet.

Special Hazards Arising From the Substance or Mixture

Specific Hazards: No information available.

Explosion data:

Sensitivity to Mechanical Impact: None

Sensitivity to static discharge: None

Special Protective Equipment and Precautions for Fire-Fighters

Protection against fire: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Special Procedures: Treat as oil fire. Move container from fire area if it can be done without risk. Do not scatter spilled material with high-pressure water streams. Dike for later disposal. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.



SAFETY DATA SHEET

ANVIL[®] 2 + 2 ULV

Effective Date: 1 June 2015

v.01

Page 3 of 7

SECTION 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

General Precautions: Use appropriate protection (see section 8). Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Use personal protective equipment as required.

Environmental Precautions: Prevent product from entering into drains and waterways. Collect and dispose of this material and its container in accordance with national and regional regulations. If the product has contaminated surface water, inform the appropriate authorities.

Methods and Material for Containment and Cleaning Up

Methods for containment: Prevent further leakage of spillage if safe to do so. Move containers from spill area.

Small spill: Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

Large Spill: Prevent entry into sewers, water courses, basements or confined areas. Dam up and soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

SECTION 7. Handling and Storage

Precautions for Safe Handling

Advice on safe handling: Use with local exhaust ventilation. Use personal protective equipment as required. Avoid breathing mist/vapors/spray.

Handling: Keep out of reach of children. Do not take internally. Avoid contact with skin and eyes.

Hygiene Measures: Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove soiled clothing immediately and clean thoroughly before using again.

Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in accordance with local regulations. Keep containers tightly closed in a cool, well-ventilated place. Protect from excessive heat and cold. Do not store near food, drink, animal feeding stuffs, pharmaceuticals, cosmetics or fertilizers. Keep in properly labeled containers.

SECTION 8. Exposure Controls / Personal Protection

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

Control Parameters

Component Name	CAS No.	List	Type	Value
Petroleum Distillates	64742-47-8	ACGIH	TLV/TWA (skin exposure)	200 mg/m ³
Mineral Oil	8042-47-5	OSHA & ACGIH	PEL / TLV, TWA (oil mist)	5 mg/m ³

Exposure controls

Engineering Controls: Use with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Wash hands thoroughly after handling. Wash clothing before re-using.

Individual Protection Measures, such as Personal Protection Equipment:

Eye Protection: Safety Glasses, Goggles or Face Shield

Skin Protection: Wear suitable protective gloves and clothing.



SAFETY DATA SHEET

ANVIL[®] 2 + 2 ULV

Effective Date: 1 June 2015

v.01

Page 4 of 7

Hand Protection: It is good industrial hygiene practice to minimize skin contact. If required or preferred, use suitable protective chemical resistant gloves such as latex, nitrile, or neoprene.

Respiratory Protection: None required. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

SECTION 9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Appearance:	Clear, Liquid
Color:	Colorless (1.0 Gardner Scale)
Odor:	Solvent, mineral oil
Odor Threshold:	No information available
pH:	No information available, immiscible in water
Melting Point:	No information available
Freezing Point:	No information available
Initial Boiling Point:	No information available
Flash Point:	>93.3°C (>200°F), Tag Closed Cup
Evaporation Rate:	No information available
Flammability:	No information available
Explosion limits [U/L]:	No information available
Vapor Pressure:	No information available
Vapor Density (Air =1):	Heavier than air
Density:	7.10 lbs./gal
Specific Gravity (Water = 1)	0.850 @ 20°C
Solubility:	Immiscible in water
Partition Coefficient:	No information available
Auto-Ignition Temperature:	No information available
Dynamic Viscosity:	15.5 cPs @ 24.0°C (Brookfield)
Decomposition Temperature:	No information available
Explosive Properties:	No information available
Oxidizing Properties:	No information available
VOC Content (%):	< 1.0

SECTION 10. Stability and Reactivity

Reactivity

No data available

Chemical Stability

Stable under recommended normal storage conditions

Possibility of Hazardous Reactions

Hazardous Reactions:	None under normal conditions
Hazardous Polymerization:	Hazardous polymerization does not occur

Conditions to avoid Extremes of temperature and direct sunlight

Incompatible materials Not compatible with strong acids and bases. Not compatible with oxidizing agents.

Hazardous decomposition products

Carbon monoxide (CO), Carbon dioxide (CO₂)



SAFETY DATA SHEET

ANVIL[®] 2 + 2 ULV

Effective Date: 1 June 2015

v.01

Page 5 of 7

SECTION 11. Toxicological information

Information on Likely Routes of Exposure

Routes of entry: Oral, Dermal and Inhalation

May be fatal if swallowed and enters airways due to petroleum distillate. Vomiting may cause aspiration pneumonia.

Information on Toxicological Effects

Acute Toxicity / Effects

Assessment of acute toxicity: Slightly toxic after ingestion. Relatively non-toxic after short-term inhalation. Moderately toxic after short term skin contact.

Oral, (Rat) LD₅₀ > 5,000 mg/kg

Dermal, (Rabbit) LD₅₀ > 2,000 mg/kg

Inhalation, Rat LC₅₀ > 3.76 mg/l (4 hours)

Skin Corrosion/Irritation: Irritation cleared in 72 hours, skin irritation index 0.04

Serious Eye Damage/Irritation: Minor irritation clearing in 48 hours

Skin Sensitization: Not a sensitizer (Buehler, Guinea Pig)

Conditions aggravated by exposure: None known

Chronic Toxicity / Effects

Assessment of repeated dose toxicity: No significant signs or symptoms indicative of any adverse health effects are expected to occur.

Germ Cell Mutagenicity This product has not been tested. The statement has been derived from the properties of the individual components. No data is available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not carcinogenic. This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Marginally higher incidences of benign liver tumors in mice were observed following lifetime high dose exposures to PBO. The significance of these observations is undetermined and under review. The doses at which tumors were observed for PBO greatly exceeded potential exposure from labeled uses.

Reproductive Effects: This product has not been tested. The statement has been derived from the properties of the individual components. No data is available to indicate product or any components present at greater than 0.1% produce a fertility impairing effect. No indication of a developmental toxic / teratogenic effect.

STOT – Single exposure Not classified

STOT – Repeated exposure Not classified

SECTION 12. Ecological Information

Ecotoxicity:

Product specific data is not available. Data referenced is in relation to active ingredients, d-Phenothrin and PBO

Toxicity to Fish: d-Phenothrin 96-hr Acute LC₅₀ 16.7 µg/L (rainbow trout), 15.8 µg/L (bluegill sunfish)
PBO: 96-hour Acute LC₅₀ 6/12 ppm (rainbow trout)

Toxicity to Aquatic Invertebrates: d-Phenothrin 48-hr LC₅₀ 4.4 µg/L *Daphnia magna*
d-Phenothrin 48-hr LC₅₀ 0.025 µg/L *Mysidopsis bahia*
PBO: 96-hr LC₅₀ 0.49 ppm, *Americamysis bahia*

Toxicity to Plants: No data available

Persistence and Degradability

Product specific data not available. Data referenced is in relation to the active ingredients, d-Phenothrin and PBO

Biodegradability: Not readily biodegradable (by OECD criteria)



SAFETY DATA SHEET

ANVIL[®] 2 + 2 ULV

Effective Date: 1 June 2015

v.01

Page 6 of 7

Bioconcentration Factor:	d-Phenothrin: 592 (edible), 4,000 (non-edible) PBO: 2, 175
Log Kow:	d-Phenothrin: 6 PBO: 4.95
Depuration:	d-Phenothrin, PBO: 2-4 days
Mobility in Soil:	d-Phenothrin has low water solubility and binds tightly to soil. Based on these properties, d-phenothrin is relatively immobile in soil and its potential to contaminate groundwater is low. PBO is not very soluble in water and adheres moderately to soil with organic matter.

SECTION 13. Disposal Considerations

Waste Treatment and Disposal methods

Pesticide wastes are regulated. Consult product label for chemical substance and container disposal instructions. Avoid release to the environment. Improper disposal of excess product or rinsate is a violation of Federal law. If these wastes cannot be disposed or by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA regional office for guidance.

Container disposal: Rinse thoroughly in accordance with label instructions.

SECTION 14. Transport Information

DOT (US) Not regulated

IMDG (Vessel)

UN Number: UN3082

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (d-PHENOTHRIN)

Hazard Class: 9

Packing Group: III

Marine Pollutant: Yes

ICAO/IATA (Air transport)

UN Number: UN3082

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (d-PHENOTHRIN)

Hazard Class: 9

Packing Group: III

Marine Pollutant: Yes

SECTION 15. Regulatory Information

FIFRA Information: This chemical is a pesticide product regulated by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information for safety data sheet, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Signal word: CAUTION

KEEP OUT OF REACH OF CHILDREN

PRECAUTIONARY STATEMENTS: HAZARDS TO HUMANS AND DOMESTIC ANIMALS: Caution. Harmful if absorbed through the skin. Avoid contact with skin, eyes, and clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Personal Protective Equipment (PPE): Some materials that are chemical-resistant to this product are: barrier laminate or Viton. Mixers, loaders, applicators, and other handlers must wear long-sleeve shirt, long pants, shoes and socks. In addition, all handlers except for applicators using motorized ground equipment, pilots, and flaggers, must wear chemical-resistant gloves. See engineering controls for additional requirements.

User safety requirements: Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent material that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.



SAFETY DATA SHEET

ANVIL[®] 2 + 2 ULV

Effective Date: 1 June 2015

v.01

Page 7 of 7

Engineering controls: Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)].

FIRST AID

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

If swallowed: Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or a doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

Note to physician: Contains petroleum distillate. Vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For information regarding medical emergencies or pesticide incidents call 1-888-740-8712.

Other Federal regulations

SARA TITLE III CLASSIFICATION

Section 302: None

Section 311/312: Immediate (acute) health hazard

Section 313: This product contains the following chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

CAS Number	Chemical Name	% by wt.
26002-80-2	d-phenothrin	2.0
51-03-6	piperonyl butoxide	2.0

CAP PROPOSITION 65: Not listed

CERCLA RQ: None

STATE RIGHT-TO-KNOW: National, state, provincial or local emergency planning, community right-to-know or other laws, regulations or ordinances may be applicable--consult applicable national, state, provincial or local laws.

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16. Other Information

DISCLAIMER OF LIABILITY: The information in this SDS was obtained from sources we believe to be reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared as is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

NFPA Health Hazards 2
Flammability 1
Instability 0
Physical and Chemical Properties –

HMIS Health Hazards 1
Flammability 1
Physical Hazards 0
Personal Protection X

© ANVIL is a Registered Trademark of Clarke Mosquito Control Products, Inc.

End of document



AquaDUET®

Water-Based Dual-Action Adulticide

A water based dual-action Adulticide for Effective Control of Adult Mosquitoes, Gnats, Non-biting Midges, Biting and Non-biting Flies in Outdoor Residential and Recreational Areas.

ACTIVE INGREDIENTS:

Prallethrin: (RS)-2-methyl-4-oxo-3-(2-propynyl) cyclopent-2-enyl-(1RS)-cis,trans-chrysanthematate	1.00%
Sumithrin®: 3-Phenoxybenzyl-(1RS, 3RS, 1RS, 3SR)-2,2-dimethyl-3-(2-methylprop-1-enyl) cyclopropanecarboxylate	5.00%
* Piperonyl Butoxide	5.00%
OTHER INGREDIENTS	89.00%
	100.00%

Contains 0.084 pounds of Prallethrin/Gallon, 0.422 pounds of Sumithrin®/Gallon and 0.422 pounds of Technical Piperonyl Butoxide/Gallon

*(butylcarbityl)(6-propylpiperonyl) ether and related compounds

KEEP OUT OF REACH OF CHILDREN CAUTION

PRECAUCION AL USUARIO: Si usted no lee inglés, no use este producto hasta que la etiqueta haya sido explicado ampliamente

FIRST AID

IF IN EYES:	<ul style="list-style-type: none"> Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
-------------	---

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For information regarding medical emergencies or pesticide incidents, call 1-888-740-8712.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Mixers, loaders, applicators, and other handlers must wear the following: long-sleeved shirt, long pants, shoes and socks. See engineering controls for additional requirements.

USER SAFETY REQUIREMENTS

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent material that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

USER SAFETY RECOMMENDATIONS

Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside, then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

ENGINEERING CONTROLS

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)]. Human flagging is prohibited. Flagging to support aerial application is limited to the use of the Global Positioning System (GPS) or mechanical flaggers.

ENVIRONMENTAL HAZARDS

This product is highly toxic to aquatic organisms, including fish and aquatic invertebrates. Runoff from treated areas or deposition of spray droplets into a body of water may be hazardous to fish and aquatic invertebrates. Before making the first application in a season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist. Do not apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material away from the water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or washwaters.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply to or allow drift onto blooming crops or weeds when bees are visiting the treatment area, except when applications are made to prevent or control a threat to public and/or animal health determined by a state, tribal or local health or vector control agency on the basis of documented evidence of disease

causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

USE RESTRICTIONS

For use only by federal, state, tribal or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform adult mosquito control applications, or by persons under their direct supervision.

IN CALIFORNIA: This product is to be applied by County Health Department, State Department of Health Services, Mosquito and Vector Control or Mosquito Abatement District personnel, or by persons under their direct supervision.

IN FLORIDA: Aerial applications of this product require trained personnel to perform industry accepted assays to monitor resistance formation in targeted mosquitoes.

Do not treat a site with more than 0.0036 lb of each a.i., Sumithrin and piperonyl butoxide and 0.00072 lbs prallethrin per acre in a single application or in any 24-hour period. Do not apply more than 0.0108 lb each of Sumithrin and piperonyl butoxide and 0.0022 lb prallethrin to the same treatment area in a 7 day period. Do not apply more than 0.0216 lb each of Sumithrin and piperonyl butoxide and 0.0043 lb prallethrin to the same treatment area in 1 month. Do not exceed 0.1 lb of Sumithrin or piperonyl butoxide or 0.02 lb prallethrin per acre in any site in one year. More frequent applications may be made to prevent or control a threat to public and/or animal health determined by a state, tribal, or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

NOTE: When rotating products with other insecticides containing PBO, do not exceed 2 lbs PBO per acre per year.

Not for use in outdoor residential misting systems.

USE INFORMATION

AQUADUET is approved for application as an Ultra Low Volume (ULV) nonthermal aerosol (cold fog) in mosquito adulticiding programs involving outdoor residential, outdoor urban, industrial, and recreational areas where adult mosquitoes or other listed flying pests are present in annoying numbers, and in vegetation surrounding parks, woodlands, swamps, marshes, overgrown areas and golf courses.

AQUADUET may be applied over crops or to areas favoring drift over crops, including row, tree, fruit, citrus, pasture and other areas where agricultural enterprises take place.

AQUADUET cannot be mixed with oil. Use only clean water. SHAKE OR AGITATE THOROUGHLY BEFORE DILUTING. Diluted product must be thoroughly agitated before use. Avoid storing excess formulation in equipment.

SPRAY DROPLET SIZE DETERMINATION

Ground-based Application: Spray equipment must be adjusted so that the volume median diameter (VMD) is less than 30 microns (Dv 0.5 < 30 um) and that 90% of the spray is contained in droplets smaller than 50 microns (Dv 0.9 < 50 um). Directions from the equipment manufacturer or vendor, pesticide registrant, or a test facility using a laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

Aerial Application: Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns (Dv 0.5 < 60 um) and that 90% of the spray is contained in droplets smaller than 115 microns (Dv 0.9 < 115 um). The effects of flight speed and, for non-rotary atomizers, nozzle angle on the droplet size spectrum must be considered. Directions from the equipment manufacturer or vendor, pesticide registrant, or a test facility using a wind tunnel and laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

GROUND U.L.V. APPLICATION

To control Mosquitoes and other listed insects, apply AQUADUET at a flow rate of 2.2 to 6.6 fluid ounces per minute at an average vehicle speed of 10 mph using a swath width of 300 feet for acreage calculations (see chart below). For best results, apply when mosquitoes are most active and meteorological conditions are conducive to keeping the spray cloud close to the ground. Certain mosquito species, such as *Aedes aegypti* and *Aedes albopictus*, are most active during the day. Application in calm air conditions is to be avoided. Apply only when ground wind speed is greater than or equal to 1 mph. All types of applications should be conducted at temperatures above 50 °F. Under normal residential conditions a flow rate of 4.0 fluid ounces per minute is recommended. If a different vehicle speed is used, adjust rate accordingly. These rates are equivalent to 0.00024 to 0.00072 pounds of Prallethrin and 0.0012 to 0.0036 pounds of Sumithrin® and Piperonyl Butoxide per acre.

Vary flow rate according to vegetation density and mosquito population. Use higher flow rate in heavy vegetation or when populations are high. AQUADUET may also be diluted with water and applied by GROUND ULV equipment so long as 1.09 fluid ounces per acre of AQUADUET is not exceeded. Refer to the tables on following panel for flow rate calculations for diluted end-use formulations of AQUADUET. If an alternate dilution rate is used, adjust the flow rate accordingly, provided the droplet

size and spectrum remain within label specifications. Use the following table to calculate application rates:

Pounds a.i./Acre			AQUADUET Fl.oz./Acre	Flow Rates in fluid oz./minute at truck speeds of:			
Sumithrin®	PBO	Prallethrin		5 MPH	10 MPH	15 MPH	20 MPH
0.0036	0.0036	0.00072	1.09	3.3	6.6	9.9	13.2
0.0022	0.0022	0.00044	0.67	2.0	4.9	6.1	8.1
0.0018	0.0018	0.00036	0.55	1.7	3.3	5.0	6.6
0.0012	0.0012	0.00024	0.36	1.1	2.2	3.3	4.4

Urban ULV Mosquito Control: AQUADUET may be applied for control of resting or flying adult mosquitoes in outdoor urban and industrial areas such as rail yards, waste yards, junkyards, tire dumps, and other outdoor areas where adult mosquitoes may be found. Apply using mechanical-foggers, or truck-mounted ULV equipment, or other spray equipment suitable for this application. Apply at rates up to but not exceeding 0.0036 lb of each a.i., Sumithrin and piperonyl butoxide and 0.00072 lbs. prallethrin per acre in a single application or in any 24-hour period.

AERIAL APPLICATION

AQUADUET may be applied at rates of 0.36 to 1.09 fluid ounces of AQUADUET per acre by fixed wing or rotary aircraft equipped with suitable ULV application equipment. AQUADUET may also be diluted with water and applied by aerial ULV equipment so long as 1.09 fluid ounces per acre of AQUADUET is not exceeded. Do not apply by fixed wing aircraft at a height less than 100 feet above the ground or canopy, or by helicopter at a height less than 75 feet above the ground or canopy, unless specifically approved by the state or tribe based on public health needs. When making aerial application at an altitude of less than 100 feet, apply only when wind speed at altitude is greater than or equal to 5 mph. When making application at an altitude of 100 feet or greater, apply only when wind speed at altitude is greater than or equal to 3 mph.

DILUTION

Reference the dilution charts on this label. If an alternative dilution rate is used, adjust the flow rate accordingly, provided the droplet size and spectrum remains within label specifications.

For a 4% Sumithrin product, dilute 1 gallon AQUADUET with 0.25 gallon water. Finished spray

contains 0.338 lbs Sumithrin & PBO and 0.067 pounds Prallethrin per gallon.

Dosage Description	Pounds a.i./Acre			Fluid oz. Finished spray/Acre	Flow Rates in fluid oz./minute at truck speeds of:			
	Prallethrin	Sumithrin	PBO		5 MPH	10 MPH	15 MPH	20 MPH
High Population	0.00072	0.0036	0.0036	1.36	4.1	8.3	12.4	16.5
Recommended	0.00044	0.0022	0.0022	0.83	2.5	5.1	7.6	10.1
Light Population	0.00036	0.0018	0.0018	0.68	2.1	4.1	6.2	8.3
	0.00024	0.0012	0.0012	0.45	1.4	2.8	4.1	5.5

For a 2.5% Sumithrin product, dilute 1 gallon AQUADUET with 1 gallon water. Finished spray contains 0.211 lbs Sumithrin & PBO and 0.042 pounds Prallethrin per gallon.

Dosage Description	Pounds a.i./Acre			Fluid oz. Finished spray/Acre	Flow Rates in fluid oz./minute at truck speeds of:			
	Prallethrin	Sumithrin	PBO		5 MPH	10 MPH	15 MPH	20 MPH
High Population	0.00072	0.0036	0.0036	2.18	6.6	13.2	19.9	26.5
Recommended	0.00044	0.0022	0.0022	1.33	4.0	8.1	12.1	16.2
Light Population	0.00036	0.0018	0.0018	1.09	3.3	6.6	9.9	13.2
	0.00024	0.0012	0.0012	0.73	2.2	4.4	6.6	8.8

For a 2% Sumithrin product, dilute 1 gallon AQUADUET with 1.5 gallons water. Finished spray contains 0.169 lbs Sumithrin & PBO and 0.034 pounds Prallethrin per gallon.

Dosage Description	Pounds a.i./Acre			Fluid oz. Finished spray/Acre	Flow Rates in fluid oz./minute at truck speeds of:			
	Prallethrin	Sumithrin	PBO		5 MPH	10 MPH	15 MPH	20 MPH
High Population	0.00072	0.0036	0.0036	2.73	8.3	16.5	24.8	33.1
Recommended	0.00044	0.0022	0.0022	1.67	5.1	10.1	15.2	20.2
Light Population	0.00036	0.0018	0.0018	1.36	4.1	8.3	12.4	16.5
	0.00024	0.0012	0.0012	0.91	2.8	5.5	8.3	11.0

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage and disposal.

PESTICIDE STORAGE: Store in a cool, dry place. Keep container closed.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING & DISPOSAL:

For Nonrefillable Containers: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

CONTAINERS 5 GALLON CAPACITY OR SMALLER: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a rinse tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

CONTAINERS LARGER THAN 5 GALLON CAPACITY: Empty the remaining contents into the application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

For Refillable Containers: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into rinsate collection system. Repeat this rinsing procedure two more times. Offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

FOR MORE INFORMATION CALL 1-800-323-5727

NOTICE: To the extent provided by law, Seller makes no warranty, expressed or implied, concerning the use of this product other than as indicated on the label. Buyer assumes all risk of use and/or handling of this material when use and/or handling is contrary to label instructions.

AQUADUET® - Registered Trademark of Clarke Mosquito Control Products, Inc.

Sumithrin® - Registered Trademark of Sumitomo Chemical Company, Ltd.

Manufactured For:
CLARKE MOSQUITO CONTROL PRODUCTS, INC.
159 N. GARDEN AVENUE
ROSELLE, ILLINOIS 60172 U.S.A.

AVAILABLE PACKAGING: 2.5 GAL, 30 GAL, 55 GAL, 275 GAL, TOTE

Lot No.: Marked on Container Label

EPA Reg. No.: 1021-2562-8329

EPA Est. No.: _____



SAFETY DATA SHEET

AQUADUET™ Water-based Adulticide

Effective Date: 1 June 2015

Page 1 of 7

SECTION 1. Identification of the Substance/Mixture and of the Company/Undertaking

Product Identifier

Formulation Identifier: AQUADUET™ Water-based Adulticide

EPA Registration Number: 1021-2562-8329

Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Relevant identified uses: Insecticide for control of adult mosquitoes.

Uses advised against: See product label for use restrictions

Details of the Supplier

Clarke Mosquito Control Products, Inc.
675 Sidwell Court
St. Charles, IL 60174 U.S.A.
+1 (630) 894-2000
Email: Clarke@clarke.com

Emergency Telephone Number

24 Hour MEDICAL Emergency: SafetyCall®: (888) 740-8712 or (952) 852-9509

24 Hour TRANSPORTATION Emergency: CHEMTREC®: (800)-424-9300

International: (703) 527-3887

SECTION 2. Hazards identification

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

Classification of the Substance or Mixture

Acute Toxicity – Inhalation (dusts/Mists): Category 4

Pictogram:



Signal Word: Warning

Hazard Statements: Harmful if inhaled

Precautionary Statements:

PREVENTION: Avoid breathing mist/vapors/spray
Use only outdoors or in a well ventilated area

RESPONSE: IF INHALED: Remove victim to fresh air and keep at rest in a position for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.

STORAGE: Store in a well-ventilated place. Keep cool.

DISPOSAL: Dispose of contents/container to an approved waste disposal plant.

Other Hazards Not Classifiable Under OSHA 2012 HCS - Not applicable

Comments: This material is considered hazardous by the 2012 OSHA Hazard Communication Standard [29 CFR 1910.1200(a)(1), and the GHS



SAFETY DATA SHEET

AQUADUET™ Water-based Adulticide

Effective Date: 1 June 2015

Page 2 of 7

SECTION 3. Composition/Information on Ingredients

Components

Substance Name	CAS No.	Concentration % w/w
ETOC® (Prallethrin)	23031-36-9	1.0
SUMITHRIN® (d-Phenothrin)	26002-80-2	5.0
Piperonyl Butoxide	51-03-6	5.0

Ingredients not identified are non-hazardous and/or are not required to be disclosed pursuant to 29 CFR 1910.1200 (2012), and are withheld as trade secret.

SECTION 4. First Aid Measures

Description of First Aid Measures

- Eye contact:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes then continue rinsing. Call a poison control center/doctor for treatment advice.
- Skin Contact:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- Ingestion:** If swallowed, IMMEDIATELY call a poison control center or doctor for treatment advice. DO NOT give any liquid to the person. Do not induce vomiting unless told to do so by a poison control center or doctor. Never give anything by mouth to an unconscious person.
- Inhalation:** Remove affected person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

Indication of Immediate Medical Attention and Special Treatment

Note to Physician: For skin effects, a highly efficient therapeutic agent for Pyrethrin/Pyrethroid exposure is topical application of Tocopherol Acetate (Vitamin E).

SECTION 5. Fire-Fighting Measures

Extinguishing Media

Suitable Extinguishing Media: Water Fog, Carbon Dioxide (CO₂), Dry Chemical, foam

Unsuitable Extinguishing Media: Do not use water jet.

Special Hazards Arising From the Substance or Mixture

Specific Hazards: No information available.

Explosion data:

Sensitivity to Mechanical Impact: None

Sensitivity to static discharge: None

Special Protective Equipment and Precautions for Fire-Fighters

Protection against fire: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Special Procedures: Move container from fire area if it can be done without risk. Do not scatter spilled material with high-pressure water streams. Dike for later disposal. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.



SAFETY DATA SHEET

AQUADUET™ Water-based Adulticide

Effective Date: 1 June 2015

Page 3 of 7

SECTION 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

General Precautions: Use appropriate protection (see section 8). Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Use personal protective equipment as required.

Environmental Precautions: Prevent product from entering into drains and waterways. Collect and dispose of this material and its container in accordance with national and regional regulations. If the product has contaminated surface water, inform the appropriate authorities.

Methods and Material for Containment and Cleaning Up

Methods for containment: Prevent further leakage of spillage if safe to do so. Move containers from spill area.

Small spill: Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

Large Spill: Prevent entry into sewers, water courses, basements or confined areas. Dam up and soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

SECTION 7. Handling and Storage

Precautions for Safe Handling

Protective measures: Use with local exhaust ventilation. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. For more information, see product label.

Hygiene Measures: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers. For more information, see product label. Keep out of reach of children.

SECTION 8. Exposure Controls / Personal Protection

Control Parameters

Exposure Guidelines: This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Individual Protection Measures, such as Personal Protection Equipment:

Eye Protection: Tight sealing safety goggles or face shield.

Skin Protection: Wear a long-sleeved shirt, long pants, socks and shoes.

Hand Protection: It is good industrial hygiene practice to minimize skin contact. If required or preferred, use suitable protective chemical resistant gloves such as latex, nitrile, or neoprene.

Respiratory Protection: None required. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

SECTION 9. Physical and Chemical Properties



SAFETY DATA SHEET

AQUADUET™ Water-based Adulticide

Effective Date: 1 June 2015

Page 4 of 7

Information on Basic Physical and Chemical Properties

Appearance:	Liquid
Color:	Milky white
Odor:	Sweet
Odor Threshold:	No information available
pH:	5.3 @ 5% in H ₂ O
Melting Point:	No information available
Freezing Point:	No information available
Initial Boiling Point:	No information available
Flash Point:	>93.3°C (>200°F) (Tag Closed Cup)
Evaporation Rate:	No information available
Flammability:	No information available
Explosion limits [U/L]:	No information available
Vapor Pressure:	No information available
Vapor Density (Air =1):	Heavier than air
Relative Density:	No information available
Specific Gravity (Water = 1)	No information available
Density:	1.012 g/cm ³ @ 20° C
Solubility:	No information available
Partition Coefficient:	No information available
Auto-Ignition Temperature:	No information available
Dynamic Viscosity:	11.2 cPs @ 22.8° C Brookfield
Decomposition Temperature:	No information available
Explosive Properties:	No information available
Oxidizing Properties:	No information available
VOC Content (%):	10%

SECTION 10. Stability and Reactivity

Reactivity

No data available

Chemical Stability

Stable under recommended normal storage conditions

Possibility of Hazardous Reactions

Hazardous Reactions: None under normal conditions

Hazardous Polymerization: Hazardous polymerization does not occur

Conditions to avoid

Extremes of temperature and direct sunlight

Incompatible materials

Not compatible with strong acids and bases. Not compatible with oxidizing agents.

Hazardous decomposition products

Carbon monoxide (CO), Carbon dioxide (CO₂)

SECTION 11. Toxicological information

Information on Likely Routes of Exposure

Routes of entry: Oral, Dermal, Inhalation



SAFETY DATA SHEET

AQUADUET™ Water-based Adulticide

Effective Date: 1 June 2015

Page 5 of 7

Information on Toxicological Effects

Acute Toxicity / Effects

Assessment of acute toxicity: Slightly toxic after ingestion. Slightly toxic after short-term inhalation. Slightly toxic after short term skin contact.

Oral, (Rat) LD ₅₀	> 5,000 mg/kg
Dermal, (Rabbit) LD ₅₀	> 5,000 mg/kg
Inhalation, Rat LC ₅₀	> 2.09 mg/l (four hours)
Skin Corrosion/Irritation:	Slight irritation at 72 hours - Irritation Index = 0.9
Serious Eye Damage/Irritation:	Irritation clearing in 24 hours
Skin Sensitization:	Negative – (guinea pig)

Chronic Toxicity / Effects

Assessment of repeated dose toxicity: No significant signs or symptoms indicative of any adverse health effects are expected to occur.

Germ Cell Mutagenicity	This product has not been tested. The statement has been derived from the properties of the individual components. No data is available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not carcinogenic. This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP. Marginally higher incidences of benign liver tumors in mice were observed following lifetime high dose exposures to PBO. The significance of these observations is undetermined and under review. The doses at which tumors were observed for PBO greatly exceeded potential exposure from labeled uses.
Reproductive Effects:	This product has not been tested. The statement has been derived from the properties of the individual components. No data is available to indicate product or any components present at greater than 0.1% produce a fertility impairing effect. No indication of a developmental toxic / teratogenic effect.
STOT – Single exposure	Not classified
STOT – Repeated exposure	Not classified

SECTION 12. Ecological Information

Ecotoxicity:

Product specific data is not available. Data referenced is in relation to active ingredients, d-Phenothrin and PBO

Toxicity to Fish:	d-Phenothrin 96-hr Acute LC ₅₀ 16.7 µg/L (rainbow trout), 15.8 µg/L (bluegill sunfish) PBO: 96-hour Acute LC ₅₀ 6/12 ppm (rainbow trout) Prallethrin LC50 0.012 mg/L (rainbow trout)
Toxicity to Aquatic Invertebrates:	d-Phenothrin 48-hr LC ₅₀ 4.4 µg/L <i>Daphnia magna</i> d-Phenothrin 48-hr LC ₅₀ 0.025 µg/L <i>Mysidopsis bahia</i> PBO: 96-hr LC ₅₀ 0.49 ppm, <i>Americamysis bahia</i> Prallethrin 48-hr EC ₅₀ 0.0062 mg/L <i>Daphnia</i>
Toxicity to Plants:	No data available

Persistence and Degradability

Product specific data not available. Data referenced is in relation to the active ingredients, d-Phenothrin and PBO

Biodegradability:	Not readily biodegradable (by OECD criteria)
Bioconcentration Factor:	d-Phenothrin: 592 (edible), 4,000 (non-edible) PBO: 2, 175 Prallethrin: no data available



SAFETY DATA SHEET

AQUADUET™ Water-based Adulticide

Effective Date: 1 June 2015

Page 6 of 7

Log Kow:	d-Phenothrin: 6 PBO: 4.95 Prallethrin: 4.49
Depuration:	d-Phenothrin, PBO: 2-4 days
Mobility in Soil:	d-Phenothrin has low water solubility and binds tightly to soil. Based on these properties, d-phenothrin is relatively immobile in soil and its potential to contaminate groundwater is low. PBO is not very soluble in water and adheres moderately to soil with organic matter. Prallethrin is not very water soluble and adheres moderately with organic material. The hazard for prallethrin to move off the site of application with rain or irrigation is rated moderate.

SECTION 13. Disposal Considerations

Waste Treatment and Disposal methods

Pesticide wastes are regulated. Consult product label for chemical substance and container disposal instructions. Avoid release to the environment. Improper disposal of excess product or rinsate is a violation of Federal law. If these wastes cannot be disposed or by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA regional office for guidance.

Container disposal: Rinse thoroughly in accordance with label instructions.

SECTION 14. Transport Information

DOT (US)

PROPER SHIPPING NAME: Insecticides, Insect or Animal Repellent, Liquid

PRIMARY HAZARD CLASS/DIVISION: Non-Hazardous

OTHER SHIPPING INFORMATION: This material is not regulated by the DOT as a hazardous material when shipped in Non-Bulk quantities (i.e., less than 119 Gallons / 450 Liters).

When shipping in Bulk-quantities (i.e., more than 119 Gallons / 450 Liters), please contact Clarke for the proper shipping description.

IMDG (Vessel)

SHIPPING NAME: Not Available

ICAO/IATA (Air transport)

SHIPPING NAME: Insecticides, Insect or Animal Repellent, Liquid

PRIMARY HAZARD CLASS/DIVISION: Non-Hazardous

SECTION 15. Regulatory Information

FIFRA Information: This chemical is a pesticide product regulated by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information for safety data sheet, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Signal Word: CAUTION

Precautionary Statements: Hazards to Humans and Domestic Animals: CAUTION. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

Personal Protective Equipment (PPE): Mixers, loaders, applicators and other handlers must wear the following: long-sleeve shirt, long pants, shoes and socks. See engineering controls for additional requirements.

User Safety Requirements: Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent material that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.



SAFETY DATA SHEET

AQUADUET™ Water-based Adulticide

Effective Date: 1 June 2015

Page 7 of 7

User Safety Recommendations: Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Engineering Controls: Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)]. Human flagging is prohibited. Flagging to support aerial application is limited to use of the Global Positioning System (GPS) or mechanical flaggers.

FIRST AID

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For information regarding medical emergencies of pesticide incidents, call 1-888-740-8712.

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Other Federal Regulations

SARA TITLE III CLASSIFICATION

Section 302: None

Section 311/312: None

Section 313: This product contains the following chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

CAS Number	Chemical Name	% by wt.
26002-80-2	d-phenothrin	5.0
51-03-6	piperonyl butoxide	5.0

CERCLA RQ:

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

U.S. California Proposition 65: This product does not contain any Proposition 65 chemicals

STATE RIGHT-TO-KNOW : National, state, provincial or local emergency planning, community right-to-know or other laws, regulations or ordinances may be applicable--consult applicable national, state, provincial or local laws.

SECTION 16. Other Information

DISCLAIMER OF LIABILITY: The information in this SDS was obtained from sources we believe to be reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared as is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

NFPA	Health Hazards 2	Flammability 1	Instability 0	Physical and Chemical Properties –
HMIS	Health Hazards 1	Flammability 1	Physical Hazards 0	Personal Protection X

™ AquaDUET is a Trademark of Clarke Mosquito Control Products, Inc.

© Sumithrin is a Registered Trademark of Sumitomo Company Ltd.

© ETOC is a Registered Trademark of Sumitomo Company Ltd.

End of document



DUET® Dual-Action Adulticide

For use only by federal, state, tribal, or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform adult mosquito control applications, or by persons under their direct supervision.

A Quick Knockdown, Oil Soluble Synergized Synthetic Pyrethroid for Effective Control of Adult Mosquitoes, Gnats, Biting and Non-Biting Midges, and Blackflies in Outdoor Residential and Recreational Areas.

ACTIVE INGREDIENTS:	
Prallethrin: (RS)-2-methyl-4-oxo-3-(2-propynyl) cyclopent-2-enyl-(1RS)-cis, trans-chrysanthemate	1.00%
Sumithrin®: 3-Phenoxybenzyl-(1RS, 3RS, 1RS, 3SR)-2,2-dimethyl-3-(2-methylprop-1-enyl) cyclopropanecarboxylate	5.00%
* Piperonyl Butoxide	5.00%
** OTHER INGREDIENTS	89.00%
	100.00%
Contains 0.0717 pounds of Prallethrin/Gallon, 0.359 pounds of Sumithrin®/Gallon and 0.359 pounds of Piperonyl Butoxide (PBO)/Gallon *(butylcarbityl)(6-propylpiperonyl) ether and related compounds **Contains petroleum distillate	

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta haya sido explicado ampliamente

FIRST AID

IF SWALLOWED:

- Immediately call a poison control center or doctor.
- Do not induce vomiting unless told to do so by a poison control center or a doctor.
- Do not give **any** liquid to the person.
- Do not give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN: Contains petroleum distillates - vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For information regarding medical emergencies or pesticide incidents, call 1-888-740-8712.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE) Mixers, loaders, applicators, and other handlers must wear the following: long-sleeved shirt, long pants, shoes and socks. See engineering controls for additional requirements.

USER SAFETY REQUIREMENTS Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent material that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

USER SAFETY RECOMMENDATIONS Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

ENGINEERING CONTROLS Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)]. Human flagging is prohibited. Flagging to support aerial applications is limited to the use of the Global Positioning System (GPS) or mechanical flaggers.

ENVIRONMENTAL HAZARDS

This pesticide is highly toxic to aquatic organisms, including fish and aquatic invertebrates. Runoff from treated areas or deposition of spray droplets into a body of water may be hazardous to fish and aquatic invertebrates. Before making the first application in a season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist. Do not apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material away from the water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or washwaters.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not

apply to or allow drift onto blooming crops or weeds when bees are foraging in the treatment area, except when applications are made to prevent or control a threat to public and/or animal health determined by a state, tribal or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

USE RESTRICTIONS

For use only by federal, state, tribal, or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform adult mosquito control applications, or by persons under their direct supervision.

IN CALIFORNIA: This product is to be applied by County Health Department, State Department of Health Services, Mosquito and Vector Control or Mosquito Abatement District personnel only.

IN FLORIDA: Aerial applications of this product require trained personnel to perform industry accepted assays to monitor resistance formation in targeted mosquitoes.

Do not treat a site with more than 0.0036 lb. of each a.i., Sumithrin and piperonyl butoxide and 0.00072 lbs. prallethrin per acre in a single application or in any 24-hour period. Do not apply more than 0.0108 lb. each of Sumithrin and piperonyl butoxide and 0.0022 lb. prallethrin to the same treatment area in a 7 day period. Do not apply more than 0.0216 lb. each of Sumithrin and piperonyl butoxide and 0.0043 lb. prallethrin to the same treatment area in 1 month. Do not exceed 0.1 lb. of Sumithrin or piperonyl butoxide or 0.02 lb. prallethrin per acre in any site in one year. More frequent applications may be made to prevent or control a threat to public and/or animal health determined by a state, tribal, or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

NOTE: When rotating products with other insecticides containing piperonyl butoxide, do not exceed 2 lbs. PBO per acre per year.

Not for use in outdoor residential misting systems. Not for use in metered release systems.

DUET cannot be diluted in water. Dilute this product with light mineral oil if dilution is preferred.

USE INFORMATION

DUET is approved for application as a thermal aerosol and as an Ultra Low Volume (ULV) nonthermal aerosol (cold fog) in mosquito adulticiding programs involving outdoor residential, urban, industrial, and recreational areas where adult mosquitoes are present in annoying numbers, and in vegetation surrounding parks, woodlands, swamps, marshes, overgrown areas and golf courses.

DUET may be applied over crops or to areas favoring drift over crops, including row, tree, fruit, citrus, pasture and other areas where agricultural enterprises take place.

SPRAY DROPLET SIZE DETERMINATION

Ground-based, wide area mosquito abatement application: Spray equipment must be adjusted so that the volume median diameter (VMD) is less than 30 microns (Dv 0.5 < 30 um) and that 90% of the spray is contained in droplets smaller than 50 microns (Dv 0.9 < 50 um). Directions from the equipment manufacturer or vendor, pesticide registrant, or a test facility using a laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

Aerial Equipment, wide area mosquito abatement application: Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns (Dv 0.5 < 60 um) and that 90% of the spray is contained in droplets smaller than 115 microns (Dv 0.9 < 115 um). The effects of flight speed and, for non-rotary atomizers, nozzle angle on the droplet size spectrum must be considered. Directions from the equipment manufacturer or vendor, pesticide registrant, or a test facility using a wind tunnel and laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

GROUND ULV APPLICATION

To control Mosquitoes and other listed insects, apply DUET at a flow rate of 2.6 to 7.8 fluid ounces per minute at an average vehicle speed of 10 mph using a swath width of 300 feet for acreage calculations (see chart below). For best results, apply when mosquitoes are most active and meteorological conditions are conducive to keeping the spray cloud close to the ground. Certain mosquito species such as *Aedes aegypti* and *Aedes albopictus*, are most active during the day. Application in calm air conditions is to be avoided. Apply only when ground wind speed is greater than or equal to 1 mph. All types of applications should be conducted at temperatures above 50 °F. Under normal residential conditions a flow rate of 4.8 fluid ounces per minute at an average vehicle speed of 10 mph is recommended. If a different vehicle speed is used, adjust rate accordingly. These rates are equivalent to 0.00024 to 0.00072 pounds of Prallethrin and 0.0012 to 0.0036 pounds of Sumithrin® and Piperonyl Butoxide per acre. Vary flow rate according to vegetation density and mosquito population. Use higher flow rate

in heavy vegetation or when populations are high. DUET may also be diluted with a suitable solvent such as mineral oil and applied by GROUND ULV equipment so long as 1.28 fluid ounces per acre of DUET is not exceeded. Refer to the dilution tables on this label for flow rate calculations for diluted end-use formulations of DUET. Use the following tables to calculate application rates:

Pounds a.i./Acre			DUET Fl.oz./Acre	Flow Rates in fluid oz./minute at truck speeds of:			
Prallethrin	Sumithrin®	PBO		5 MPH	10 MPH	15 MPH	20 MPH
0.00072	0.0036	0.0036	1.28	3.9	7.8	11.7	15.6
0.00044	0.0022	0.0022	0.79	2.4	4.8	7.1	9.5
0.00036	0.0018	0.0018	0.64	1.9	3.9	5.8	7.8
0.00024	0.0012	0.0012	0.43	1.3	2.6	3.9	5.2

DUET may be applied through truck mounted thermal fogging equipment. Do not exceed the maximum rates listed above. May be applied at speeds of 5 to 20 mph. To reduce oil requirement and sludge buildup in equipment, use a 60-100-second viscosity mineral "fog" oil or other fuel-type oil. Use a clean, well-maintained and properly calibrated fogger. Do not wet foliage since oil base formulations may be phytotoxic.

Urban ULV Mosquito Control: DUET may be applied for control of resting or flying adult mosquitoes in urban and industrial areas such as utility tunnels, pipe chases, underground basements, underground passages, parking decks, open parking garages, abandoned warehouses, crawl spaces, uninhabited buildings, rail yards, waste yards, junkyards, tire dumps, and other areas where adult mosquitoes may be found. Apply using mechanical-foggers, or truck-mounted ULV equipment, or other spray equipment suitable for this application. Apply at rates up to but not exceeding 0.0036 lb of each a.i., Sumithrin and piperonyl butoxide and 0.00072 lbs. prallethrin per acre in a single application or in any 24-hour period.

AERIAL APPLICATION

DUET may be applied at rates of 0.43 to 1.28 fluid ounces of DUET per acre by fixed wing or rotary aircraft equipped with suitable ULV application equipment. Appropriate spray systems include rotary atomizers, flat fan, high pressure, and high pressure impaction nozzles characterized and oriented to achieve the droplet characteristics specified in this label. DUET may also be diluted with a suitable solvent such as mineral oil and applied by aerial ULV equipment so long as 1.28 fluid ounces per acre of DUET is not exceeded. Refer to the dilution tables on this label for flow rate calculations for diluted end-use formulations of DUET. Do not apply by fixed wing aircraft at a height less than 100 feet above the ground or canopy, or by helicopter at a height less than 75 feet above the ground or canopy unless specifically approved by the state or tribe based on public health needs. When making aerial application at an altitude of less than 100 feet, apply only when wind speed at altitude is greater than or equal to 5 mph. When making application at an altitude of 100 feet or greater, apply only when wind speed at altitude is greater than or equal to 3 mph.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

PESTICIDE STORAGE: Store in a cool, dry place. Keep container closed.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL:

[For 2.5-gallon Jugs]: Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with mineral oil and recap. Shake for 10 seconds. Pour rinsate into application equipment or a rinse tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

[For refillable drums & totes]: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into rinsate collection system. Repeat this rinsing procedure two more times. Offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

FOR MORE INFORMATION CALL 1-800-323-5727

NOTICE: To the extent provided by law, Seller makes no warranty, expressed or implied, concerning the use of this product other than as indicated on the label. Buyer assumes all risk of use and/or handling of this material when use and/or handling is contrary to label instructions.

Sumithrin® - Registered Trademark of Sumitomo Chemical Company, Ltd.

Duet® - Registered Trademark of Clarke Mosquito Control Products, Inc.

MANUFACTURED FOR:
CLARKE MOSQUITO CONTROL PRODUCTS, INC.
159 N. GARDEN AVENUE
ROSELLE, ILLINOIS 60172

DILUTION CALCULATIONS

For a 4% Sumithrin product, dilute 1 gallon DUET with 0.25 gallon oil. Finished spray contains 0.29 lbs Sumithrin & PBO and 0.06 pounds Prallethrin per gallon.

Dosage Description	Pounds a.i./Acre			Fluid oz. Finished spray/Acre	Flow Rates in fluid oz./minute at truck speeds of:			
	Prallethrin	Sumithrin	PBO		5 MPH	10 MPH	15 MPH	20 MPH
High Population	0.00072	0.0036	0.0036	1.61	4.9	9.7	14.6	19.5
Recommended	0.00044	0.0022	0.0022	0.98	3.0	5.9	8.9	11.9
Light Population	0.00036	0.0018	0.0018	0.80	2.4	4.9	7.3	9.7
	0.00024	0.0012	0.0012	0.54	1.6	3.2	4.9	6.5

For a 2.5% Sumithrin product, dilute 1 gallon DUET with 1 gallon oil. Finished spray contains 0.179 lbs Sumithrin & PBO and 0.036 pounds Prallethrin per gallon.

Dosage Description	Pounds a.i./Acre			Fluid oz. Finished spray/Acre	Flow Rates in fluid oz./minute at truck speeds of:			
	Prallethrin	Sumithrin	PBO		5 MPH	10 MPH	15 MPH	20 MPH
High Population	0.00072	0.0036	0.0036	2.57	7.8	15.6	23.4	31.1
Recommended	0.00044	0.0022	0.0022	1.57	4.8	9.5	14.3	19.0
Light Population	0.00036	0.0018	0.0018	1.28	3.9	7.8	11.7	15.6
	0.00024	0.0012	0.0012	0.86	2.6	5.2	7.8	10.4

For a 2% Sumithrin product, dilute 1 gallon DUET with 1.5 gallons oil. Finished spray contains 0.143 lbs Sumithrin & PBO and 0.029 pounds Prallethrin per gallon.

Dosage Description	Pounds a.i./Acre			Fluid oz. Finished spray/Acre	Flow Rates in fluid oz./minute at truck speeds of:			
	Prallethrin	Sumithrin	PBO		5 MPH	10 MPH	15 MPH	20 MPH
High Population	0.00072	0.0036	0.0036	3.21	9.7	19.5	29.2	38.9
Recommended	0.00044	0.0022	0.0022	1.96	5.9	11.9	17.8	23.8
Light Population	0.00036	0.0018	0.0018	1.61	4.9	9.7	14.6	19.5
	0.00024	0.0012	0.0012	1.07	3.2	6.5	9.7	13.0

AVAILABLE PACKAGING: 2.5 GAL, 30 GAL, 55 GAL, 275 GAL TOTE

LOT NO.: Marked on Container Label

EPA REG. NO.: 1021-1795-8329

EPA EST. NO.: _____

AL0477



SAFETY DATA SHEET

DUET[®] Dual-Action Adulticide

Effective Date: 5 July 2017

v.02

Page 1 of 8

SECTION 1. Identification of the Substance/Mixture and of the Company

Product Identifier

Formulation Identifier: DUET[®] Dual-Action Adulticide

EPA Registration Number: 1021-1795-8329

Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Relevant identified uses: An insecticide for mosquito and vector control

Uses advised against: See product label for use restrictions

Details of the Supplier

Clarke Mosquito Control Products, Inc.
675 Sidwell Court
St. Charles, IL 60174 U.S.A.
+1 (630) 894-2000
Email: Clarke@clarke.com

Emergency Telephone Number

24 Hour MEDICAL Emergency: SafetyCall[®]: (888) 740-8712 or (952) 852-9509

24 Hour TRANSPORTATION Emergency: CHEMTREC[®]: (800)-424-9300

International: (703) 527-3887

SECTION 2. Hazards identification

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

Classification of the Substance or Mixture

Acute Toxicity (Inhalation): Category 4

Aspiration Toxicity: Category 1

Pictogram:



Signal Word: DANGER

Hazard Statements: Harmful if inhaled.

May be fatal if swallowed and enters airways.

Precautionary Statements:

PREVENTION: Avoid breathing mist/vapors/spray. Use only outdoors or in well-ventilated area.

RESPONSE: IF INHALED- Remove victim to fresh air and keep at rest in a position for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

IF SWALLOWED: Immediately call a poison center/doctor. Do NOT induce vomiting.

STORAGE: Store locked up in a well ventilated place. Keep container tightly closed.

DISPOSAL: Dispose of contents/container to an approved waste disposal plant.

Other Hazards Not Classifiable Under OSHA 2012 HCS - Not applicable



SAFETY DATA SHEET

DUET[®] Dual-Action Adulticide

Effective Date: 5 July 2017

v.02

Page 2 of 8

Comments: This material is considered hazardous by the 2012 OSHA Hazard Communication Standard [29 CFR 1910.1200(a)(1), and the GHS

SECTION 3. Composition/Information on Ingredients

Components

Substance Name	CAS No.	Concentration % w/w
ETOC [®] (Prallethrin)	23031-36-9	1.0
SUMITHRIN [®] (d-Phenothrin)	26002-80-2	5.0
Piperonyl Butoxide	51-03-6	5.0
Petroleum Distillates, hydrotreated light	64742-47-8	10-20 *
White Mineral Oil	8042-47-5	50-75 *

* The exact percentage (concentration) of composition has been withheld as trade secret.

Ingredients not identified are non-hazardous and/or are not required to be disclosed pursuant to 29 CFR 1910.1200 (2012), and are withheld as trade secret.

SECTION 4. First Aid Measures

Description of First Aid Measures

- Eye contact: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes then continue rinsing. Call a poison control center/doctor for treatment advice.
- Skin Contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- Ingestion: If swallowed, IMMEDIATELY call a poison control center or doctor for treatment advice. DO NOT give any liquid to the person. Do not induce vomiting unless told to do so by a poison control center or doctor. Never give anything by mouth to an unconscious person.
- Inhalation: Remove affected person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

Indication of Immediate Medical Attention and Special Treatment

Notes to Physician: Contains Pyrethroids and Petroleum Distillates – vomiting may pose an aspiration hazard. For skin effects, a highly efficient therapeutic agent for Pyrethrin/Pyrethroid exposure is topical application of Tocopherol Acetate (Vitamin E).

SECTION 5. Fire-Fighting Measures

Extinguishing Media

Suitable Extinguishing Media: Water Fog, Carbon Dioxide (CO₂), Dry Chemical, foam

Unsuitable Extinguishing Media: Do not use water jet.

Special Hazards Arising From the Substance or Mixture

Specific Hazards: No information available.

Explosion data:

Sensitivity to Mechanical Impact: None

Sensitivity to static discharge: Yes, use proper bonding and/or grounding procedures.

Special Protective Equipment and Precautions for Fire-Fighters

Protection against fire: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Special Procedures: Treat as oil fire. Move container from fire area if it can be done without risk. Do not scatter spilled material with high-pressure water streams. Dike for later disposal. Use extinguishing agents



SAFETY DATA SHEET

DUET[®] Dual-Action Adulticide

Effective Date: 5 July 2017

v.02

Page 3 of 8

appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

SECTION 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

General Precautions: Use appropriate protection (see section 8). Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Use personal protective equipment as required.

Environmental Precautions: Prevent product from entering into drains and waterways. Collect and dispose of this material and its container in accordance with national and regional regulations. If the product has contaminated surface water, inform the appropriate authorities.

Methods and Material for Containment and Cleaning Up

Methods for containment: Prevent further leakage of spillage if safe to do so. Move containers from spill area.

Small spill: Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

Large Spill: Prevent entry into sewers, water courses, basements or confined areas. Dam up and soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

SECTION 7. Handling and Storage

Precautions for Safe Handling

Protective measures: Wear a long-sleeved shirt, long pants, shoes and socks. Take prudent precautions to avoid contact with skin, eyes, and clothing. Mechanical ventilation should be used when handling this product in enclosed spaces. Do not contaminate water, food or feedstuffs, by storage, handling, or by disposal.

Hygiene Measures: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a cool, dry place. Keep container closed. Always store pesticides in the original container. Store away from food and pet food. Keep out of reach of children.

Electrostatic Accumulation Hazard: This product contains petroleum distillates for which there is potential for the accumulation of static electricity. Consideration should be given to bonding and grounding of equipment during loading, unloading, and transfer of this product.

SECTION 8. Exposure Controls / Personal Protection

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

Control Parameters

Component Name	CAS No.	List	Type	Value
ETOC [®] (Prallethrin)	23031-36-9	OSHA; ACGIH		None
SUMITHRIN [®] (d-Phenothrin)	026002-80	OSHA; ACGIH		None
Piperonyl Butoxide	51-03-6	OSHA; ACGIH		None
Petroleum Distillates	64742-47-8	OSHA & ACGIH	TLV/TWA (as oil-mist, if generated)	5 mg/m ³



SAFETY DATA SHEET

DUET[®] Dual-Action Adulticide

Effective Date: 5 July 2017

v.02

Page 4 of 8

Mineral Oil	8042-47-5	OSHA & ACGIH	PEL / TLV, TWA (oil mist, mineral)	5 mg/m ³
-------------	-----------	--------------	------------------------------------	---------------------

Exposure controls

Engineering Controls: Use with adequate ventilation. Local exhaust ventilation may be necessary for some operations..

Individual Protection Measures, such as Personal Protection Equipment:

Eye Protection: Safety Glasses, Goggles or Face Shield. Take prudent precautions to avoid contact with eyes.

Skin Protection: Wear a long-sleeved shirt and long pants, shoes and socks.

Hand Protection: It is good industrial hygiene practice to minimize skin contact. If required or preferred, use suitable protective chemical resistant gloves such as latex, nitrile, or neoprene.

Respiratory Protection: None required. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

SECTION 9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Appearance:	Clear, yellow-colored liquid
Color:	1.0 on Gardner Scale
Odor:	Solvent odor
Odor Threshold:	No information available
pH:	Not applicable. Product is not miscible in water
Melting Point:	No information available
Freezing Point:	No information available
Initial Boiling Point:	No information available
Flash Point:	>93.3°C (>200°F) (Tag Closed Cup)
Evaporation Rate:	No information available
Flammability:	No information available
Explosion limits [U/L]:	No information available
Vapor Pressure:	No information available
Vapor Density (Air =1):	Heavier than air
Relative Density:	No information available
Specific Gravity (Water = 1)	0.860 @ 20°C (68°F)
Solubility:	Immiscible
Partition Coefficient:	No information available
Auto-Ignition Temperature:	No information available
Viscosity:	18 cPs @ 22.0°C (71.6°F) Brookfield
Decomposition Temperature:	No information available
Explosive Properties:	No information available
Oxidizing Properties:	No information available
VOC Content (%):	<1.000%

SECTION 10. Stability and Reactivity

Reactivity

No data available

Chemical Stability



SAFETY DATA SHEET

DUET[®] Dual-Action Adulticide

Effective Date: 5 July 2017

v.02

Page 5 of 8

Stable under recommended normal storage conditions

Possibility of Hazardous Reactions

Hazardous Reactions: None under normal conditions
Hazardous Polymerization: Hazardous polymerization does not occur

Conditions to avoid Extremes of temperature and direct sunlight

Incompatible materials Not compatible with strong acids and bases. Not compatible with oxidizing agents.

Hazardous decomposition products

Carbon monoxide (CO), Carbon dioxide (CO₂)

SECTION 11. Toxicological information

Information on Likely Routes of Exposure

Routes of entry: Oral, Dermal, Inhalation

May be fatal if swallowed and enters airways due to petroleum distillate. Vomiting may cause aspiration pneumonia.

Information on Toxicological Effects

Acute Toxicity / Effects

Assessment of acute toxicity: Slightly toxic after ingestion. Relatively non-toxic after short-term inhalation. Moderately toxic after short term skin contact. Some or all of the toxicity data reported is bridged from a substantially similar formula.

Oral, (Rat) LD₅₀ >5,000 mg/kg

Dermal, (Rabbit) LD₅₀ >2,000 mg/kg

Inhalation, Rat LC₅₀ >2.04 mg/l (4 hours)

Skin Corrosion/Irritation: Slight irritation at 72 hours. Irritation Index = 0.92

Serious Eye Damage/Irritation: Irritation clearing in 24 hours.

Skin Sensitization: Negative; Not considered to be a dermal sensitizer (Buehler).

Conditions aggravated by exposure: None known

Chronic Toxicity / Effects

Assessment of repeated dose toxicity: No significant signs or symptoms indicative of any adverse health effects are expected to occur.

Germ Cell Mutagenicity This product has not been tested. The statement has been derived from the properties of the individual components. No data is available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not carcinogenic. This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Marginally higher incidences of benign liver tumors in mice were observed following lifetime high dose exposures to PBO. The significance of these observations is undetermined and under review. The doses at which tumors were observed for PBO greatly exceeded potential exposure from labeled uses.

Reproductive Effects: This product has not been tested. The statement has been derived from the properties of the individual components. No data is available to indicate product or any components present at greater than 0.1% produce a fertility impairing effect. No indication of a developmental toxic / teratogenic effect.

STOT – Single exposure Not classified

STOT – Repeated exposure Not classified

SECTION 12. Ecological Information

Ecotoxicity:

Product specific data is not available. Data referenced is in relation to active ingredients, d-Phenothrin and PBO



SAFETY DATA SHEET

DUET[®] Dual-Action Adulticide

Effective Date: 5 July 2017

v.02

Page 6 of 8

Toxicity to Fish:	d-Phenothrin 96-hr Acute LC ₅₀ 16.7 µg/L (rainbow trout), 15.8 µg/L (bluegill sunfish) PBO: 96-hour Acute LC ₅₀ 6/12 ppm (rainbow trout) Prallethrin LC ₅₀ 0.012 mg/L (rainbow trout)
Toxicity to Aquatic Invertebrates:	d-Phenothrin 48-hr LC ₅₀ 4.4 µg/L <i>Daphnia magna</i> d-Phenothrin 48-hr LC ₅₀ 0.025 µg/L <i>Mysidopsis bahia</i> PBO: 96-hr LC ₅₀ 0.49 ppm, <i>Americamysis bahia</i> Prallethrin 48-hr EC ₅₀ 0.0062 mg/L <i>Daphnia</i>
Toxicity to Plants:	No data available
<u>Persistence and Degradability</u> Product specific data not available. Data referenced is in relation to the active ingredients, d-Phenothrin and PBO	
Biodegradability:	Not readily biodegradable (by OECD criteria)
Bioconcentration Factor:	d-Phenothrin: 592 (edible), 4,000 (non-edible) PBO: 2, 175 Prallethrin: no data available
Log Kow:	d-Phenothrin: 6 PBO: 4.95 Prallethrin: 4.49
Depuration:	d-Phenothrin, PBO: 2-4 days
Mobility in Soil:	d-Phenothrin has low water solubility and binds tightly to soil. Based on these properties, d-phenothrin is relatively immobile in soil and its potential to contaminate groundwater is low. PBO is not very soluble in water and adheres moderately to soil with organic matter. Prallethrin is not very water soluble and adheres moderately with organic material. The hazard for prallethrin to move off the site of application with rain or irrigation is rated moderate.

SECTION 13. Disposal Considerations

Waste Treatment and Disposal methods

Pesticide wastes are regulated. Consult product label for chemical substance and container disposal instructions. Avoid release to the environment. Improper disposal of excess product or rinsate is a violation of Federal law. If these wastes cannot be disposed or by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA regional office for guidance.

Container disposal: Rinse thoroughly in accordance with label instructions.

SECTION 14. Transport Information

DOT (US)

Proper Shipping Name: Agricultural Insecticide. N.O.I. Non-Hazardous
Primary Hazard Class/Division: Non-Hazardous

In Non-Bulk quantities (i.e., less than or equal to 119 Gallons / 450 Liters): This material is not regulated by the DOT as a hazardous material.

In Bulk Quantities (more than 119 Gallons / 450 Liters):

UN Number: UN3082

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (d-PHENOTHRIN)

Hazard Class: 9

Packing Group: III

Marine Pollutant: Yes

IMDG (Vessel)



SAFETY DATA SHEET

DUET[®] Dual-Action Adulicide

Effective Date: 5 July 2017

v.02

Page 7 of 8

UN Number: UN3082
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (d-PHENOTHRIN)
Hazard Class: 9
Packing Group: III
Marine Pollutant: Yes

ICAO/IATA (Air transport)

UN Number: UN3082
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (d-PHENOTHRIN)
Hazard Class: 9
Packing Group: III
Marine Pollutant: Yes

SECTION 15. Regulatory Information

FIFRA Information: This chemical is a pesticide product regulated by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information for safety data sheet, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Signal word: CAUTION
KEEP OUT OF REACH OF CHILDREN

PRECAUTIONARY STATEMENTS: HAZARDS TO HUMANS AND DOMESTIC ANIMALS: CAUTION. Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse.

Personal Protective Equipment (PPE): Mixers, loaders, applicators, and other handlers must wear the following: long-sleeve shirt, long pants, shoes and socks. See engineering controls for additional requirements.

User safety requirements: Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent material that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

User Safety Recommendations: Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside, then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

Engineering controls: Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)]. Human flagging is prohibited. Flagging to support aerial applications is limited to use of the Global Positioning System (GPS) or mechanical flaggers.

FIRST AID

If swallowed: Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or a doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

Note to physician: Contains petroleum distillates. Vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For information regarding medical emergencies or pesticide incidents call 1-888-740-8712.

Other Federal Regulations

SARA TITLE III CLASSIFICATION

Section 302: None
Section 311/312: Immediate (acute) health hazard
Section 313: This product contains the following chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

CAS Number	Chemical Name	% by wt.
------------	---------------	----------



SAFETY DATA SHEET

DUET[®] Dual-Action Adulticide

Effective Date: 5 July 2017

v.02

Page 8 of 8

26002-80-2
51-03-6

d-phenothrin
piperonyl butoxide

5.0
5.0

CERCLA RQ: None

U.S. California Proposition 65: Not listed

STATE RIGHT-TO-KNOW: National, state, provincial or local emergency planning, community right-to-know or other laws, regulations or ordinances may be applicable--consult applicable national, state, provincial or local laws.

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16. Other Information

DISCLAIMER OF LIABILITY: The information in this SDS was obtained from sources we believe to be reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared as is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

NFPA Health Hazards 2
Flammability 1
Instability 0
Physical and Chemical Properties –

HMIS Health Hazards 1
Flammability 1
Physical Hazards 0
Personal Protection X

[™] DUET is a Trademark of Clarke Mosquito Control Products, Inc.
[®] Sumithrin is a Registered Trademark of Sumitomo Company Ltd.
[®] ETOC is a Registered Trademark of Sumitomo Company Ltd.

End of document

FYFANON® EW INSECTICIDE

FOR USE ONLY BY FEDERAL, STATE, TRIBAL, OR LOCAL GOVERNMENT OFFICIALS RESPONSIBLE FOR PUBLIC HEALTH OR VECTOR CONTROL, OR BY PERSONS CERTIFIED IN THE APPROPRIATE CATEGORY OR OTHERWISE AUTHORIZED BY THE STATE OR TRIBAL LEAD PESTICIDE REGULATORY AGENCY TO PERFORM ADULT MOSQUITO CONTROL APPLICATIONS, OR BY PERSONS UNDER THEIR DIRECT SUPERVISION.

Kills mosquitoes
Reduces mosquito populations
May be Applied Undiluted or Diluted with Water
Low odor**

EPA Reg. No. 279-3622 EPA Est. No. 4787-DNK-001

ACTIVE INGREDIENT:	By Wt.
Malathion*.....	40.9%
OTHER INGREDIENTS:.....	59.1%
TOTAL	100.0%

*O,O-dimethyl phosphorodithioate of diethyl mercaptosuccinate
Contains 3.67 lbs malathion per gallon

**U.S. Patent No. 6,121,478

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

IN CASE OF A MEDICAL EMERGENCY INVOLVING THIS
PRODUCT CALL TOLL FREE DAY OR NIGHT 1 800-331-3148

SEE BOOKLET FOR ADDITIONAL PRECAUTIONARY
STATEMENTS AND USE DIRECTIONS

Sold By



FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104

Product of Denmark

Net Contents: 2.5 Gallons

FIRST AID

CONTAINS AN ORGANOPHOSPHATE THAT INHIBITS
CHOLINESTERASE

IF SWALLOWED:	<ul style="list-style-type: none">• Call a poison control center or doctor immediately for treatment advice.• Have person sip glass of water if able to swallow.• Do not induce vomiting unless told to do so by the poison control center or doctor.• Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately with plenty of water for 15 to 20 minutes.• Call a poison control center or doctor for treatment advice.
IF IN EYES:	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with warm water for 15 to 20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-331-3148 for emergency medical treatment information.

NOTE TO PHYSICIAN: This product is a cholinesterase inhibitor. Treat symptomatically. Atropine is antidotal.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if swallowed. Harmful if absorbed through skin. Causes moderate eye irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Mixers, loaders, applicators, flaggers, and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical resistant gloves made of Barrier Laminate, Butyl Rubber ≥ 14 mils, Nitrile Rubber ≥ 14 mils, Neoprene Rubber ≥ 14 mils, Natural Rubber ≥ 14 mils, Polyethylene, Polyvinyl Chloride (PVC) ≥ 14 mils, or Viton ≥ 14 mils.
- Shoes plus socks

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

User should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic organisms, including fish and invertebrates. Use care when applying in or to an area which is adjacent to any body of water, and do not apply when weather conditions favor drift from target area. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product.

When applying as a wide area mosquito adulticide, before making the first application in a season, it is advisable to consult with the state or tribal agency charged with primary responsibility for pesticide regulation to determine if other regulatory requirements exist.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply or allow to drift onto blooming crops or weeds while bees are actively foraging in the treatment area, except when applications are made to prevent or control a threat to public and/or animal health determined by a state, tribal or local public health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort. When applying as a wide area mosquito adulticide, do not apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material away from the water in order to minimize incidental deposition into the water body.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage and disposal.

PESTICIDE STORAGE: Fyfanon EW should be stored in the original unopened container in a secure, dry place. Do not contaminate with other pesticides or fertilizers. Avoid excess heat. Fyfanon EW should never be heated above 55°C (131°F), and should not be stored for long periods of time at a temperature in excess of 25° C (77° F).

PESTICIDE DISPOSAL: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

CONTAINER HANDLING:

Refillable containers:

Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

Nonrefillable containers (equal to or less than 5 gallons):

Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

Nonrefillable containers (greater than 5 gallons):

Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For use by federal, state, tribal, or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform adult mosquito control applications, or by persons under their direct supervision.

FYFANON EW INSECTICIDE PRODUCT INFORMATION

Fyfanon EW is a water-based malathion emulsion formulation for outdoor space-spray application to control mosquitoes. It contains proprietary formulation technology designed to reduce the odor of malathion.

Fyfanon EW is to be used for ground applications only and is approved for use in populated and rural areas.

Fyfanon EW may be used undiluted or diluted with water (only) – it **must not be diluted with oil-based solvents or diluents.**

Fyfanon EW is recommended to be part of a rotational program to reduce the occurrence of resistance developing in mosquito control programs – see RESISTANCE MANAGEMENT section below.

RESTRICTIONS

- Do not apply more than 0.23 lb AI/Acre/day.
- Do not re-treat a site more than 3 times in any one week. However, more frequent treatments may be made to prevent or control a threat to public and/or animal health determined by a federal, state, tribal or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne diseases in animal or human populations, or if specifically approved by the state or tribe during a natural disaster effort.
- Apply when wind speed is equal to or greater than 1 mph.
- Not for aerial application
- Not for use on crop-land
- This product is for outdoor use only

GENERAL PREPARATION

- Fyfanon EW is only to be applied as an outdoor space-spray for wide-area adult mosquito control.
- Before making the first application in a season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist.
- For best results, apply when mosquitoes are most active and meteorological conditions are conducive to keeping the spray cloud in the air column close to the ground. An inversion of air temperatures and a light breeze is preferable. Application during the cooler hours of the night or early morning may be recommended depending on target species. Use of technology to improve accuracy of treatments is recommended; this may include GPS mapping, weather monitoring or onboard or land based predictive drift modeling systems.
- Ensure Fyfanon EW (diluted or undiluted) is thoroughly agitated before use. Avoid prolonged storage of diluted product in application equipment.

OPERATING EQUIPMENT PREPARATION

Correct Droplet size: Each cold aerosol generator must be adjusted to produce the correct droplet spectrum for optimal mosquito control. Calibrate spray equipment so that the Volume Median Diameter (VMD) of the aerosol is less than 30 microns (Dv 0.5<30µm) and 90% of the volume is in droplets less than 50µm (Dv 0.9<50µm). Directions from the equipment manufacturer, insecticide vendor or a test facility can be used to establish the correct droplet size spectra.

Maintenance: Equipment manufacturer's recommendations for cleaning and maintenance of the aerosol unit must be followed. The unit must be inspected before use to correct any malfunctions and to verify that the flow rate is correct. For truck mounted sprayers, use the table below to determine the application volumes required at each vehicle speed. Vehicle should not travel greater than 20 mph. Shut off spray equipment when vehicle is stopped.

APPLICATION INSTRUCTIONS

Truck Mounted Sprayer Applications – Non-thermal/cold Aerosol Generator.

Base acreage calculations on manufacturer's directions and recommended swath width.

For control of adult mosquitoes, apply Fyfanon EW at the rate of 0.03 to 0.06 lb ai / A (1.05 to 2.1 fluid ounces Fyfanon EW per acre).

Truck Mounted Application Rates for FYFANON EW INSECTICIDE (300 foot swath)						
lb ai/Acre	Dilution ratio (with water)	Application Rates Fluid Ounces per Minute at Vehicle Speeds				Fl. oz. Finished Spray per Acre
		5 mph	10 mph	15 mph	20 mph	
0.03 – 0.06*	undiluted	3.2 - 6.3	6.3 - 12.6	9.5 - 18.9	12.6 – 25.2	1.05 - 2.1
	1:1	6.3 – 12.6	12.6 – 25.2	18.9 – 37.8	25.2 – 50.4	2.1 – 4.2

*Where dense vegetation or a public health emergency is present, the use of the highest label rate is recommended.

Hand-held Portable or Backpack Application

Apply through non-thermal/cold aerosol application equipment. Target application of Fyfanon EW is 1.05 – 2.1 fl.oz/Acre (0.03 – 0.06 lb ai/Acre). Application calculations assume a 50 foot swath and a walking speed of 2.9 ft/second – at this speed it will take 300 seconds (5 minutes) to walk 870 ft which (by using a 50 ft spray swath) covers one acre.

1 fl.oz/minute output: Sprayer calibrated to deliver 1 fl.oz finished spray per minute (5 fl.oz finished spray delivered per acre): Dilute Fyfanon EW 1 part concentrate + 3.7 parts water to deliver 0.03 lb AI/Acre. Dilute Fyfanon EW 1 part concentrate + 1.4 parts water to deliver 0.06 lb AI/Acre.

2 fl.oz/minute output: Sprayer calibrated to deliver 2 fl.oz finished spray per minute (10 fl.oz finished spray delivered per acre): Dilute Fyfanon EW 1 part concentrate + 8.8 parts water to deliver 0.03 lb AI/Acre. Dilute Fyfanon EW 1 part concentrate + 3.7 parts water to deliver 0.06 lb AI/Acre.

Dilution table for handheld/backpack sprayer for 2.9 ft/second walking speed & 50ft swath				
Finished spray per acre (fl.oz)	0.03 lb AI/Acre		0.06 lb AI/Acre	
	Fl.oz Fyfanon EW for quantity of finished spray required		Fl.oz of Fyfanon EW for quantity of finished spray required	
	For 1 Gallon	For 2 Gallons	For 1 Gallon	For 2 Gallons
5 fl.oz (1fl.oz/minute spray rate)	27 fl.oz	54 fl.oz	54 fl.oz	108 fl.oz
10 fl.oz (2 fl.oz/minute spray rate)	13 fl.oz	27 fl.oz	27 fl.oz	54 fl.oz

RESISTANCE MANAGEMENT

Mosquitoes are known to develop resistance to insecticides following repeated exposure to the same chemical class. However, the incidence, speed and degree of resistance development cannot be predicted because of environmental and biological variation. The use of Fyfanon EW should conform to resistance management strategies if established for your local use area. Consult local or state mosquito management authorities for information.

Optimal mosquito population control is best achieved by having an understanding of local mosquito resistance status to products being applied for their control. Various factors may result in less than acceptable mosquito control including non-optimal application techniques, equipment problems and adverse weather conditions. Once these are determined not to be the cause, mosquito tolerance or resistance may be suspected. Consult your local company representative, pest management advisor or other experts such as CDC to help establish the cause of control problems and to develop a local strategy.

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before using this product. If the terms are not acceptable, return the product at once, unopened.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions beyond the control of FMC. All such risks shall be assumed by User, and User agrees to hold FMC harmless for any claims relating to such factors.

FMC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the Directions for Use when used in accordance with the directions under normal conditions of use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, FMC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, NOR ANY OTHER EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE SELECTION, PURCHASE, OR USE OF THIS PRODUCT. Any warranties, express or implied, having been made are inapplicable if this product has been used contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to (or beyond the control of) FMC, and user assumes the risk of any such use.

To the extent permitted by law, FMC or seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. THE EXCLUSIVE REMEDY OF THE USER, AND THE EXCLUSIVE LIABILITY OF FMC FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF FMC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

This Conditions of Sale and Limitation of Warranty and Liability may not be amended by any oral or written agreement.

SAFETY DATA SHEET
Fyfanon EW Insecticide

SDS # : FO002270-A
Revision date: 2018-05-02
Format: NA
Version 1.02



1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name Fyfanon EW Insecticide

Other means of identification

Product Code(s) FO002270-A

Legacy Product Code F4279-1; 3110-03

Synonyms MALATHION: diethyl [(dimethoxyphosphinothioyl)thio]butanedioate (CAS Name); diethyl(dimethoxyphosphinothioylthio)succinate (IUPAC Name)

Active Ingredient(s) Malathion

Formula C₁₀H₁₉O₆PS₂ (Malathion)

Chemical Family Organophosphate

Recommended use of the chemical and restrictions on use

Recommended Use: Insecticide

Restrictions on Use: Use as recommended by the label.

Supplier Address

FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104
(215) 299-6000 (General Information)
msdsinfo@fmc.com (E-Mail General Information)

Emergency telephone number

For leak, fire, spill or accident emergencies, call:
1 800 / 424-9300 (CHEMTREC - U.S.A.)
1 703 / 741-5970 (CHEMTREC - International)
1 703 / 527-3887 (CHEMTREC - Alternate)

Medical Emergencies:
1 800 / 331-3148 (ProPharma Group - U.S.A. & Canada)
1 651 / 632-6793 (ProPharma Group - All Other Countries - Collect)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)


Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2B
Skin sensitization	Category 1

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Warning

Hazard Statements
H302 - Harmful if swallowed
H315 - Causes skin irritation
H320 - Causes eye irritation
H317 - May cause an allergic skin reaction
H410 - Very toxic to aquatic life with long lasting effects



Precautionary Statements - Prevention

- P202 - Do not handle until all safety precautions have been read and understood
- P264 - Wash face, hands and any exposed skin thoroughly after handling
- P270 - Do not eat, drink or smoke when using this product
- P280 - Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P337 + P313 - If eye irritation persists: Get medical advice/ attention
- P302 + P352 - IF ON SKIN: Wash with plenty of water and soap
- P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
- P362 - Take off contaminated clothing and wash before reuse
- P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
- P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
- P330 - Rinse mouth

Precautionary Statements - Storage

- P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
- P411 + P235 - Store at temperatures not exceeding 25°C/ 77°F. Keep cool.

Precautionary Statements - Disposal

- P501 - Dispose of contents/container according to label directions

Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

Other Information

Very toxic to aquatic life with long lasting effects. May be harmful in contact with skin.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family Organophosphate.

Chemical name	CAS-No	Weight %
Malathion Technical	121-75-5	40.9

Sodium Hydroxide	1310-73-2	1-5
------------------	-----------	-----

Synonyms are provided in Section 1.

4. FIRST AID MEASURES

Eye Contact	Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.
Skin Contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.
Inhalation	Move person from contaminated area to fresh air. Seek medical attention immediately. If person is not breathing, give artificial respiration, preferably by mouth-to-mouth, if possible.
Ingestion	Do not induce vomiting without medical advice. Rinse mouth with water and afterwards drink plenty of water or milk. If vomiting does occur, rinse mouth and drink fluids again. Never give anything by mouth to an unconscious person. Immediate medical attention is required.
Most important symptoms and effects, both acute and delayed	Malathion is a cholinesterase inhibitor affecting the central and peripheral nervous systems producing respiratory depression.
Indication of immediate medical attention and special treatment needed, if necessary	This product contains a reversible cholinesterase inhibitor. If any sign of cholinesterase inhibition occurs, call a doctor (physician), clinic or hospital immediately. Explain that the victim has been exposed to an organophosphorus insecticide. Describe his/her condition and the extent of exposure. Immediately remove the exposed person from the area where the product is present. Treatment is symptomatic and supportive. Atropine sulfate is antidotal.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Dry chemical, Carbon dioxide (CO ₂), Water spray, Foam. Avoid heavy hose streams.
Specific Hazards Arising from the Chemical	None known
Hazardous Combustion Products	The essential breakdown products are volatile, toxic, irritant and inflammable compounds such as: Dimethyl sulphide, methyl mercaptan, Sulfur dioxide, Carbon monoxide, Carbon dioxide (CO ₂), phosphorus pentoxide.
Explosion data	
Sensitivity to Mechanical Impact	No information available.
Sensitivity to Static Discharge	Yes.
Protective equipment and precautions for firefighters	Use water spray to cool fire exposed surfaces and protect personnel. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Dike to prevent runoff. As in any fire, wear self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Isolate and post spill area. Remove all sources of ignition. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.
Other	For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.
Environmental Precautions	Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains.

Methods for Containment

Dike to prevent runoff. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up

If appropriate, surface water drains should be covered. Minor spills on the floor or other impervious surface should be swept up or preferably vacuumed up using equipment with high efficiency final filter. Transfer to suitable containers. Clean area with strong industrial detergent and much water. Absorb wash liquid onto a suitable absorbent such as hydrated lime, universal binder, attapulgate, bentonite or other absorbent clays and transfer contaminated absorbent to suitable containers. The used containers should be properly closed and labelled.

7. HANDLING AND STORAGE

Handling

Handle in accordance with good industrial hygiene and safety practice. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal. Handle product only in closed system or provide appropriate exhaust ventilation at machinery. Use only in area provided with appropriate exhaust ventilation. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling. Wear personal protective equipment. Refer to Section 8.

Storage

Keep at a temperature not exceeding 25°C. Keep away from heat and sources of ignition i.e., steam pipes, radiant heaters, hot air vents or welding sparks. Keep container tightly closed in a dry and well-ventilated place. Keep out of reach of children and animals. Keep away from food, drink and animal feedingstuffs. Keep/store only in original container. Keep in properly labeled containers.

Incompatible products

Strong alkalis, Amines, Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Malathion Technical (121-75-5)	TWA: 1 mg/m ³	TWA: 15 mg/m ³ S*	IDLH: 250 mg/m ³ TWA: 10 mg/m ³	Mexico: TWA 10 mg/m ³
Sodium Hydroxide (1310-73-2)	Ceiling: 2 mg/m ³	TWA: 2 mg/m ³	IDLH: 10 mg/m ³ Ceiling: 2 mg/m ³	Mexico: Ceiling 2 mg/m ³
Chemical name	British Columbia	Quebec	Ontario TWAEV	Alberta
Malathion Technical (121-75-5)	TWA: 1 mg/m ³ Skin	TWA: 10 mg/m ³ Skin	TWA: 1 mg/m ³ inhalable fraction and vapor Skin	TWA: 1 mg/m ³ Skin
Sodium Hydroxide (1310-73-2)	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³	CEV: 2 mg/m ³	Ceiling: 2 mg/m ³

Appropriate engineering controls

Engineering measures

Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Individual protection measures, such as personal protective equipment

Eye/Face Protection

For exposure to mists or sprays, wear safety goggles or face shield for chemical agents. Maintain eye wash fountain and quick-drench facilities in work area.

Skin and Body Protection

Minimize skin contamination by following good industrial hygiene practices.

Hand Protection

Use protective gloves made of chemical materials such as nitrile or neoprene. Wash the outside of gloves with soap and water before reuse. Check regularly for leaks.

Respiratory Protection	The product does not automatically present an airborne exposure concern during normal handling. In the event of an accidental discharge of the material which produces a heavy vapour or mist, workers should put on officially approved respiratory protection equipment with a universal filter type including particle filter.
Hygiene measures	Clean water should be available for washing in case of eye or skin contamination. Remove and wash contaminated clothing before re-use. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Launder work clothing separately from regular household laundry.
General information	If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Suspension
Physical State	Liquid
Color	Off-white
Odor	Glue-like
Odor threshold	No information available
pH	4.53 @ 25°C (undiluted); 5.32 @25°C (1% dilution in water) The pH is expected to decrease on prolonged storage
Melting point/freezing point	< 0 °C
Boiling Point/Range	No information available
Flash point	> 100 °C / 212 °F (PMCC)
Evaporation Rate	No information available
Flammability (solid, gas)	Not applicable (Product is a liquid)
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Relative density	1.072 g/mL @ 20°C
Specific gravity	No information available
Water solubility	Miscible with water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	1092 mPa.s at 20°C, 973 mPa.s at 40°C
Explosive properties	Not explosive
Oxidizing properties	Non-oxidizing
Molecular weight	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity	None under normal use conditions
Chemical Stability	Stable up to 100 °C. Heating above this temperature may cause explosive decomposition.
Possibility of Hazardous Reactions	None known.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Heating can release hazardous gases. The product should never be heated above 55°C. Local heating above this temperature should be avoided as well.
Incompatible materials	Strong alkalis, Amines, Strong oxidizing agents.
Hazardous Decomposition Products	See Section 5 for more information.

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral : > 2000 mg/kg (rat)
 LD50 Dermal : > 4000 mg/kg (rat)
 LC50 Inhalation : > 5.75 mg/L 4 hr (rat)

Serious eye damage/eye irritation Mildly irritating (rabbit).
 Skin corrosion/irritation Mildly irritating (rabbit).
 Sensitization May cause sensitization by skin contact

Information on toxicological effects

Symptoms Malathion is a cholinesterase inhibitor affecting the central and peripheral nervous systems producing respiratory depression. On contact, the first symptoms to appear may be irritation. Symptoms of cholinesterase inhibition: nausea, headache, vomiting, cramps, weakness, blurred vision, pin-point pupils, tightness in chest, laboured breathing, nervousness, sweating, watering of eyes, drooling or frothing of mouth and nose, muscle spasms and coma.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Mutagenicity The product contains no ingredients known to be mutagenic.
Carcinogenicity Malathion Limited evidence of a carcinogenic effect
Neurological effects Malathion: No information available
Reproductive toxicity This product does not contain any known or suspected reproductive hazards.
STOT - single exposure No known effects under normal use conditions.
STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure. See listed target organs below.
Target organ effects Nervous System, Acetylcholinesterase Inhibition
Neurological effects Malathion: No information available
Aspiration hazard The product does not present an aspiration pneumonia hazard.

Chemical name	ACGIH	IARC	NTP	OSHA
Malathion Technical 121-75-5		Group 2A		X

Legend:

IARC (International Agency for Research on Cancer)
 Group 2A - Probably Carcinogenic to Humans
 OSHA (Occupational Safety and Health Administration of the US Department of Labor)
 X - Present

12. ECOLOGICAL INFORMATION

Ecotoxicity

Malathion Technical (121-75-5)				
Active Ingredient(s)	Duration	Species	Value	Units
Malathion	96 h LC50	Oncorhynchus mykiss (rainbow trout)	0.18	mg/L
	37-day NOEC	Oncorhynchus mykiss (rainbow trout)	21	µg/L
	48 h EC50	Daphnia magna	0.72	µg/L
	21 d NOEC	Daphnia magna	0.06	µg/L
	72-h IC50	Selenastrum capricornutum	4.06	mg/L
	LD50	Bobwhite quail	359	mg/kg
	5-day dietary LC50	Bobwhite quail	3497	mg/kg
	LD50	Mallard duck	1485	mg/kg
	14-day LC50	Earthworm	613	mg/kg
	LD50 acute oral	Honey bees	0.38	µg/bee

	LD50 topical	Honey bees	0.27	µg/bee
--	--------------	------------	------	--------

Persistence and degradability Malathion: Biodegradable, but does not meet the criteria for being readily biodegradable, Non-persistent.

Bioaccumulation Malathion: Not expected to bioaccumulate.

Mobility Malathion: Medium mobility; has some potential to reach groundwater.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance. Proper personal protective equipment, as described in Sections 7 and 8, must be worn while handling materials for waste disposal.

Contaminated Packaging Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions.

14. TRANSPORT INFORMATION

DOT NOT REGULATED Classification below is only applicable when this material is packaged in quantities of 240 lbs or more

UN/ID no UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard class 9
Packing Group III
Reportable Quantity (RQ) Malathion
Marine Pollutant Malathion.
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Malathion), 9, III, RQ

TDG Classification below is only applicable when shipped by vessel and is not applicable when shipped by road or rail only.

UN/ID no UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard class 9
Packing Group III
Marine Pollutant Malathion.
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Malathion), 9, III, RQ

ICAO/IATA

UN/ID no UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard class 9
Packing Group III
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Malathion), 9, III
Limited quantity 30 kg G

IMDG/IMO

UN/ID no UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard class 9
Packing Group III
EmS No. F-A, S-F
Marine Pollutant Malathion
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Malathion), 9, III

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical name	CAS-No	Weight %	SARA 313 - Threshold Values %
Malathion Technical - 121-75-5	121-75-5	40.9	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic health hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Malathion Technical 121-75-5	100 lb			X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Malathion Technical 121-75-5	100 lb 45.4 kg	
Hydrogen peroxide 7722-84-1		1000 lb

FIFRA Information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION

*Harmful if swallowed or absorbed through skin.
 Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing.
 Toxic to aquatic organisms, including fish and invertebrates
 Highly toxic to bees exposed to direct treatment on blooming crops or weeds.*

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical name	California Prop. 65
Malathion Technical - 121-75-5	Carcinogen

U.S. State Right-to-Know Regulations

Fyfanon EW Insecticide

SDS # : FO002270-A
 Revision date: 2018-05-02
 Version 1.02

Chemical name	New Jersey	Massachusetts	Pennsylvania
Malathion Technical 121-75-5	X	X	X
Sodium Hydroxide 1310-73-2	X	X	X

International Inventories

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINC S (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Malathion Technical 121-75-5		X	X	X	X	X	X	X
Sodium Hydroxide 1310-73-2	X	X	X	X	X	X	X	X

Mexico - Grade Serious risk, Grade 3

Chemical name	Carcinogen Status	Mexico
Malathion Technical		Mexico: TWA 10 mg/m ³
Sodium Hydroxide		Mexico: Ceiling 2 mg/m ³

CANADA

WHMIS Statement

This product has been classified in accordance with the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

WHMIS Hazard Class D2B - Toxic materials



16. OTHER INFORMATION

NFPA	Health Hazards 2	Flammability 2	Instability 0	Special Hazards -
HMIS	Health Hazards 2*	Flammability 2	Physical hazard 0	Personal Protection X

*Indicates a chronic health hazard.

NFPA/HMIS Ratings Legend Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0

Revision date: 2018-05-02
Reason for revision: (M)SDS sections updated

Disclaimer

FMC Corporation believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specified product designated and may not be applicable where such product is used in combination with any other materials or in any process. Use of this product is regulated by the U.S. Environmental Protection Agency (EPA). It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Further, since the conditions and methods of use are beyond the control of FMC Corporation, FMC corporation expressly disclaims any and all liability as to any results obtained or arising from any use of the products or reliance on such information.

Prepared By:

FMC Corporation

FMC Logo - Trademark of FMC Corporation

© 2018 FMC Corporation. All Rights Reserved.

End of Safety Data Sheet



MERUS® 3.0

FOR USE IN ORGANIC PRODUCTION

For control of adult mosquitoes in Outdoor Residential, Recreational, Urban, Industrial, and Agricultural Areas. For use over agricultural crops, including those intended for human consumption, pasture, and rangeland. For Aerial and Ground ULV Application.

Active Ingredient:

Pyrethrins, a botanical insecticide	5.0%
Other Ingredients	95.0%
	100.0%

Contains 0.365 pounds Pyrethrins per gallon

KEEP OUT OF REACH OF CHILDREN

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Personal Protective Equipment (PPE): Mixers, loaders, applicators and other handlers must wear the following: long-sleeve shirt, long pants, shoes and socks. See engineering controls for additional requirements.

User Safety Requirements: Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

User Safety Recommendations: Users should wash hands before eating, drinking, chewing gum, tobacco, or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

Engineering Controls: Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)]. Human flagging is prohibited. Flagging to support aerial application is limited to use of the Global Positioning System (GPS) or mechanical flaggers.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic organisms, including fish and aquatic invertebrates. Runoff from treated areas or deposition of spray droplets into a body of water may be hazardous to fish and aquatic invertebrates. Before making the first application in a season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist. Do not apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material away from the water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or washwaters.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are foraging the treatment area, except when applications are made to prevent or control a threat to public and/or animal health determined by a state, tribal or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes, or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

USE RESTRICTIONS

This product is not for use in outdoor residential misting systems. Do not apply this product with thermal fogging equipment. Do not apply this product in enclosed spaces using hand-held or portable backpack spray equipment. Do not make applications during rain.

For use only by federal, state, tribal or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform adult mosquito control applications, or by persons under their direct supervision.

IN CALIFORNIA: This product is to be applied by County Health Department, State Department of Health Services, Mosquito and Vector Control or Mosquito Abatement District personnel, or persons under contract to these entities only.

IN FLORIDA: Aerial applications of this product require trained personnel to perform industry accepted assays to monitor resistance formation in targeted mosquitoes.

The maximum application rate for wide-area mosquito adulticide applications is 0.0025 lb a.i./acre per day. When targeting *Aedes taeniorhynchus* and other difficult species, applications may be made up to 0.008 lb a.i./acre/day.

Do not apply more than 0.2 lb a.i./acre/year in any treated area. More frequent treatments may be made to prevent or control a threat to public and/or animal health determined by a state, tribal, or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

SPRAY DRIFT MANAGEMENT for WIDE AREA MOSQUITO ABATEMENT

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, airblast, chemigation) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

WIND SPEED: Apply only when wind speed is greater than 1 mph.

USE INFORMATION

MERUS® 3.0 is approved for application as an Ultra Low Volume (ULV) non-thermal aerosol (cold fog) in mosquito adulticiding programs involving outdoor residential, urban, industrial, and recreational areas where adult mosquitoes are present in annoying numbers, and in vegetation surrounding parks, woodlands, swamps, marshes, overgrown areas and golf courses.

MERUS® 3.0 may be applied over crops or to areas favoring drift over crops, including row, tree, fruit, citrus, pasture and other areas where agricultural enterprises take place.

MERUS® 3.0 may be used undiluted or diluted with suitable light mineral oil and applied as an ultra low volume (ULV) non-thermal aerosol (cold fog) or in suitable mechanical spray equipment. MERUS® 3.0 cannot be diluted in water.

SPRAY DROPLET SIZE DETERMINATION

Ground-based wide-area mosquito abatement application: Spray equipment must be adjusted so that the volume median diameter is less than 30 microns (Dv 0.5 < 30 µm) and that 90% of the spray is contained in droplets smaller than 50 microns (Dv 0.9 < 50 µm). Directions from the equipment manufacturer or vendor, pesticide registrant, or a test facility using a laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

Aerial wide-area mosquito abatement application: Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns ($D_v 0.5 < 60 \mu m$) and that 90% of the spray is contained in droplets smaller than 80 microns ($D_v 0.9 < 80 \mu m$). The effects of flight speed, and for non-rotary nozzles, nozzle angle on the droplet size spectrum must be considered. Directions from the equipment manufacturer or vendor, pesticide registrant, or a test facility using a wind tunnel and laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

GROUND ULV APPLICATION

To control Mosquitoes, apply MERUS® 3.0 at a flow rate of 3.4 to 5.3 fluid ounces per minute at an average vehicle speed of 10 MPH using a swath width of 300 feet for acreage calculations (see chart below). These rates are equivalent to 0.0016 to 0.0025 lb a.i./acre. Within this range, vary flow rate according to vegetation density and mosquito population. Use higher rate in heavy vegetation or when pest population numbers are high. For best results, apply when mosquitoes are most active and meteorological conditions are conducive to keeping the spray cloud close to the ground. Application in calm air conditions is to be avoided. Apply only when ground wind speed is greater than or equal to 1 MPH. All types of applications should be conducted at temperatures above 50°F.

Use the following table to calculate application rates:

lb a.i./acre	Application Rates (Fl.oz./Minute) at vehicle speeds of:				Fl. oz. MERUS® 3.0/acre
	5 MPH	10 MPH	15 MPH	20 MPH	
0.0025	2.7	5.3	8.0	10.6	0.88
0.0021	2.2	4.5	6.7	8.9	0.74
0.0018	1.9	3.8	5.7	7.7	0.63
0.0016	1.7	3.4	5.1	6.8	0.56

Applications up to 2.81 fl.oz. (0.008 lb a.i.)/acre may be made when targeting *Aedes taeniorhynchus* or other difficult to control species.

lb a.i./acre	Application Rates (Fl.oz./Minute) at vehicle speeds of:				Fl. oz. MERUS® 3.0/acre
	5 MPH	10 MPH	15 MPH	20 MPH	
0.008	8.5	17.0	25.5	34.0	2.81

If dilution is preferred, adjust the flow rate accordingly to achieve 0.0016 to 0.0025 lb a.i./acre. Applicable flow rates for a 1 part concentrate to 1 part oil dilution are presented. If an alternate dilution rate is used, adjust the flow rate accordingly.

Rates to use a 2.5% pyrethrins dilution (1 to 1 dilution ratio) for mosquito control:

lb a.i./acre	Application Rates (Fl.oz./Minute) at vehicle speeds of:				Fl. oz. Finished Spray/acre
	5 MPH	10 MPH	15 MPH	20 MPH	
0.0025	5.3	10.6	15.9	21.3	1.75
0.0021	4.5	8.9	13.4	17.9	1.47
0.0018	3.8	7.7	11.5	15.3	1.26
0.0016	3.4	6.8	10.2	13.6	1.12

Urban ULV Mosquito Control: MERUS® 3.0 may be applied for control of resting or flying adult mosquitoes in urban and industrial areas such as utility tunnels, pipe chases, underground basements, underground passages, parking decks, open parking garages, abandoned warehouses, crawl spaces, uninhabited buildings, rail yards, waste yards, junkyards, tire dumps, and other areas where adult mosquitoes might be found. Apply using handheld or truck-mounted ULV equipment, or other spray equipment suitable for this application. Apply at rates up to but not exceeding 0.0025 lb a.i./acre/day (0.88 fluid ounces of undiluted spray/acre/day). Do NOT use hand-held equipment for this type of application in enclosed spaces.

MERUS® 3.0 may also be applied with non-thermal, portable, motorized backpack equipment adjusted to deliver ULV particles of less than 100 microns VMD. Use 0.56 to 0.88 fl.oz. of the undiluted spray per acre (equal to 0.0016 to 0.0025 lb.ai./acre)

as a 50 ft (15.2 m) swath while walking at a speed of 2 MPH (3.2 KPH). Dilute with a suitable mineral oil if dilution is preferred. Do NOT use portable backpack equipment for application in enclosed spaces.

AERIAL APPLICATION

Apply using nozzle height of no less than 100 feet for fixed wing aircraft or 75 feet for rotary wing aircraft above the ground or canopy, unless specifically approved by the state or tribe based on public health needs.

Apply by suitable fixed wing or rotary aircraft equipped with nozzles capable of producing a non-thermal (cold fog) aerosol spray cloud with appropriately sized droplets. Flow rate and swath width should be set so as to achieve 0.56 to 0.88 fluid ounces of undiluted MERUS® 3.0 per acre.

MERUS® 3.0 may also be diluted with suitable diluent light mineral oil and applied by suitable aircraft at appropriate flow rates to achieve a dosage of 0.0016 to 0.0025 lb a.i./acre. Diluted or undiluted, applications up to 2.81 fl.oz. MERUS® 3.0 (0.008 lb a.i.)/acre/day may be made when targeting *Aedes taeniorhynchus* or other difficult to control species.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

PESTICIDE STORAGE: Store in a cool, dry place. Keep container closed.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING:

For Nonrefillable containers of 5 gallons or less. Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with mineral oil and recap. Shake for 10 seconds. Pour rinsate into application equipment or a rinse tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

For Refillable Containers. Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into rinsate collection system. Repeat this rinsing procedure two more times. Offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. **For medical emergencies or information on health concerns for this product, you may call 1-800-214-7753.** For non-emergency information, on product usage for example, call 1-800-323-5727. In case of transportation emergency, call INFO-TRAC 1-800-553-5053.

NOTICE: To the extent consistent with applicable law, Clarke Mosquito Control Products, Inc. makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. To the extent consistent with applicable law, Buyer assumes all risk of use/handling of this material when use and/or handling is contrary to label instructions.

MERUS®-Trademark of Clarke Mosquito Control Products, Inc.

MANUFACTURED BY
CLARKE MOSQUITO CONTROL PRODUCTS, INC.

159 N. GARDEN AVENUE
ROSELLE, ILLINOIS 60172

EPA Reg. No.:8329-108

EPA Est. No.: _____

Lot No.: Marked on Container Label

Available Container Sizes: 2.5 gal, 30 gal, 55 gal, 275 gal



SAFETY DATA SHEET

MERUS® 3.0

Effective Date: 18 October 2021

v.03

Page 1 of 7

SECTION 1. Identification of the Substance/Mixture and of the Company

1.1 Product Identifier

Formulation Identifier: MERUS® 3.0

EPA Registration Number: 8329-108

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Relevant Identified Uses: Insecticide for control of adult mosquitoes

Uses Advised Against: See product label for use restrictions

1.3 Details of the Supplier of the Safety Data Sheet

Clarke Mosquito Control Products, Inc.
675 Sidwell Court
St. Charles, IL 60174 U.S.A.
+1 (630) 894-2000
Email: Clarke@clarke.com

1.4 Emergency Telephone Number

24 hour Medical Emergency: POISON CONTROL (800) 214-7753

24 hour Transportation Emergency: INFOTRAC (800) 535-5053

SECTION 2. Hazards identification

United States (US)
According to OSHA 29 CFR 1910.1200 HCS (2012)

2.2 Classification of the Substance or Mixture

Classification

Skin Sensitization, Category 1

Hazard Statements

May cause allergic skin reaction

Pictogram:



Signal Word: Warning

Precautionary Statements:

PREVENTION: Avoid breathing mist/vapors/spray. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves.

RESPONSE: If on Skin: Wash with plenty of water. If skin irritation or rash occurs, get medical advice/attention. See label for specific treatment instruction. Wash contaminated clothing before reuse.

DISPOSAL: Dispose of contents/container in accordance with local/regional/national regulations.

Other Hazards Not Classifiable Under OSHA 2012 HCS

See product label for any additional hazards



SAFETY DATA SHEET

MERUS® 3.0

Effective Date: 18 October 2021

v.03

Page 2 of 7

SECTION 3. Composition/Information on Ingredients

3.1 Components

Substance Name	Concentration % w/w	OSHA HCS Classification
Pyrethrins	5.0	Acute Toxicity – Inhalation Cat. 4
Inert Ingredient #1	75.00	

Ingredients not identified are non-hazardous and/or are not required to be disclosed pursuant to 29 CFR 1910.1200 (2012), and are withheld as trade secret.

SECTION 4. First Aid Measures

4.1 Description of First Aid Measures

- If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
- If in Eyes: Immediately flush eyes with water. Flush eyes with water for a minimum of 5 minutes, occasionally lifting and lowering upper lids. Get medical attention promptly. Remove contact lenses if worn.
- If Swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
- If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed.

The most important known symptoms and effects are described in section 2 and/or in section 11.

4.3 Indication of Immediate Medical Attention and Special Treatment

Treatment: Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. For medical treatment information, contact the poison control hotline at 1-800-214-7753. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

For skin effects, a highly efficient therapeutic agent for pyrethrins/pyrethroid exposure is topical application of tocopherol acetate (vitamin E).

SECTION 5. Fire-Fighting Measures

5.1 Extinguishing Media

Suitable Extinguishing Media: Carbon Dioxide (CO₂), Dry Chemical, Foam, Alcohol Foam

Unsuitable Extinguishing Media: Water jet

5.2 Special Hazards Arising From the Substance or Mixture

Specific Hazards: Under fire conditions some components may decompose. Combustion products may include CO and NOx.

5.3 Special Protective Equipment and Precautions for Fire-Fighters

Protection Against Fire: Wear positive pressure, self-contained breathing apparatus and protective firefighting clothing (includes fire-fighting helmet, coat, pants, boots, and gloves).

Special Procedures: Move container from fire area if it can be done without risk. Do not scatter spilled material with high-pressure water streams. Dike for later disposal. Use extinguishing agents



SAFETY DATA SHEET

MERUS® 3.0

Effective Date: 18 October 2021

v.03

Page 3 of 7

appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

SECTION 6. Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

General Precautions: Use appropriate protection (see section 8)

Environmental Precautions: Prevent product from entering into drains and waterways. Collect and dispose of this material and its container in accordance with national and regional regulations. If the product has contaminated surface water, inform the appropriate authorities. See Section 12 for additional ecological information.

6.2 Methods and Material for Containment and Cleaning Up

Clean Up Methods: Soak up with absorbent, non-combustible material, such as sand, silica gel, clay, or sawdust, while using appropriate personal protection equipment. Collect material in appropriate container for disposal.

SECTION 7. Handling and Storage

7.1 Precautions for Safe Handling

Handling: Keep out of reach of children. Do not take internally. Avoid contact with skin and eyes. Avoid inhalation of vapors from product.

Hygiene Measures: Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove soiled clothing immediately and clean thoroughly before using again.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

Storage: Product should be stored in compliance with local regulations. Store in a cool, dry, well-ventilated place in the original container. Protect from excessive heat and cold. Do not store near food, drink, animal feeding stuffs, pharmaceuticals, cosmetics or fertilizers. Keep out of reach of children.

SECTION 8. Exposure Controls / Personal Protection

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

8.1 Control Parameters

Component Name	CAS No.	List/Source	Type	Value
Pyrethrins	8003-34-7	ACGIH	TLV	5 mg/m ³
		NIOSH	TWA	5 mg/m ³
		OSHA	PEL/TWA	5 mg/m ³

8.2 Exposure controls

Engineering Controls: Use with adequate ventilation. Wash hands thoroughly after handling. Wash clothing before re-using.

Individual Protection Measures, such as Personal Protection Equipment:

Eye Protection: Safety Glasses, Goggles or Face Shield are recommended to be worn.

Skin Protection: Wear suitable protective clothing including long-sleeve shirt, long pants, shoes and socks.

Hand Protection: Wear suitable protective chemical resistant gloves such as barrier laminate, nitrile rubber, neoprene rubber, or Viton.



SAFETY DATA SHEET

MERUS® 3.0

Effective Date: 18 October 2021

v.03

Page 4 of 7

Respiratory Protection: None required under normal use of the product. In instances where exposure limits are exceeded, wear a NIOSH-approved pesticide respirator with an organic-vapor removing cartridge with a prefilter approved for pesticides.

SECTION 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Appearance:	Clear liquid
Color:	Golden yellow
Odor:	Earthy, raisin-like
Odor Threshold:	Not Available
pH:	Not Determined
Melting Point:	Not Applicable
Freezing Point:	Not Determined
Initial Boiling Point:	Not Determined
Flash Point:	160°C
Evaporation Rate:	Not Determined
Flammability:	Not Determined
Explosion limits [U/L]:	Not Determined
Vapor Pressure:	Not Determined
Vapor Density:	Not Determined
Relative Density:	0.874 g/ml (7.29 lbs/gal)
Solubility:	Not Determined
Partition Coefficient:	Not Determined
Auto-Ignition Temperature:	Not Determined
Viscosity:	10.57 cP at 20°C
Decomposition Temperature:	Not Available
Explosive Properties:	Not Available
Oxidizing Properties:	Not Available

SECTION 10. Stability and Reactivity

10.1 Reactivity

Not Available

10.2 Chemical Stability

Stable under normal conditions

10.3 Possibility of Hazardous Reactions

Hazardous Reactions: None under normal conditions

Hazardous Polymerization: Not known to occur

10.4 Conditions to Avoid

Protect from direct sunlight and excessive heat. Avoid heat, flames, sparks and other sources of ignition.

10.5 Incompatible Materials

Avoid contact with strong oxidizing agents, strong acids, strong bases



SAFETY DATA SHEET

MERUS® 3.0

Effective Date: 18 October 2021

v.03

Page 5 of 7

10.6 Hazardous Decomposition Products

None known under normal conditions of storage and use

SECTION 11. Toxicological Information

11.1 Information on Likely Routes of Exposure

Routes of entry: Oral, Dermal, Inhalation

11.2 Information on Toxicological Effects

Acute Toxicity/Effects

Oral, Rat LD₅₀ : >5,000 mg/kg-bw

Dermal, Rat LD₅₀ : > 5,000 mg/kg-bw

Inhalation, Rat LC₅₀ : > 5.12 mg/L

Skin Corrosion/Irritation: Not corrosive or irritating to the skin on acute exposure. Mild skin irritation or cracking may occur from prolonged or repeated exposure to this product. Primary Irritation Index PII = 1.5

Serious Eye Damage/Irritation: Not an eye irritant.

Skin Sensitization: Skin sensitizer

STOT – Single exposure No data is available to indicate product or any components present at greater than 0.1% present a specific target organ toxicity hazard from single exposure.

Chronic Toxicity/Effects

Germ Cell Mutagenicity

This product has not been tested. No data is available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity:

This product does not contain any carcinogens as listed by OSHA, IARC, or NTP.

Slightly elevated incidences of benign tumors of the thyroid and liver were seen in rats following lifetime administration of Pyrethrins. Further detailed scientific studies into the mode of action responsible for these effects show that: (1) because of biological species differences, the rat thyroid tumors are not relevant to humans, and (2) the rat liver tumors occur in animals only at doses greatly exceeding human exposure levels and that cause cell proliferation (mitogenesis). Based on these data, the US EPA has classified Pyrethrins as "Not Likely to be Carcinogenic to Humans" at doses that do not cause a mitogenic response in the liver/cell proliferation. Thus, Pyrethrins can be considered to be noncarcinogenic at exposure levels relevant to human use of Pyrethrins-containing products.

Reproductive Effects: No data is available to indicate product or any components present at greater than 0.1% cause reproductive or teratogenic toxicity.

STOT – Repeated Exposure: No data available

Additional Information: None

SECTION 12. Ecological Information

12.1 Ecotoxicity

Product specific data is not available. Data referenced is in relation to the active ingredient, Pyrethrins.

Toxicity to Fish: 96-hr Acute LC₅₀ 5.1 µg/L, Rainbow Trout
96-hr Acute LC₅₀ 16.0 µg/L, Sheepshead Minnow



SAFETY DATA SHEET

MERUS® 3.0

Effective Date: 18 October 2021

v.03

Page 6 of 7

Toxicity to Aquatic Invertebrates: 48-hr Acute EC₅₀ 11.6 µg/L, Water Flea (*Daphnia magna*)
48-hr LC₅₀ 1.4 µg/L, Mysid Shrimp (*Americamysis bahia*)

Toxicity to Aquatic Plants: No information available

12.1 Persistence and Degradability

Product specific data not available. Data referenced is in relation to the active ingredient, Pyrethrins.

pK_{ow}: 5.90 and 4.30

Mobility in Soil: Immobile in soil

Partition Coefficient, K_{oc}: 12,400 to 37,840

SECTION 13. Disposal Considerations

13.1 Waste Treatment and Disposal methods

Pesticide wastes are regulated. Consult product label for chemical substance and container disposal instructions. Avoid release to the environment. Improper disposal of excess product or rinsate is a violation of the Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA regional office for guidance.

Container disposal: Rinse thoroughly in accordance with label instructions.

SECTION 14. Transport Information

14.1 DOT (US)

UN Number: 3082
Hazard Class: 9
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S.
Technical Name: Pyrethrins

14.2 IMDG (Vessel)

UN Number: 3082
Hazard Class: 9
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S.
Technical Name: Pyrethrins
Marine Pollutant: Yes

14.3 ICAO/IATA (Air transport)

UN Number: 3082
Hazard Class: 9
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S.
Technical Name: Pyrethrins
Environmental Hazard: Yes

SECTION 15. Regulatory Information

FIFRA Information: This chemical is a pesticide product regulated by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information for safety data sheet, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

KEEP OUT OF REACH OF CHILDREN



SAFETY DATA SHEET

MERUS® 3.0

Effective Date: 18 October 2021

v.03

Page 7 of 7

PRECAUTIONARY STATEMENTS: HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Personal Protective Equipment (PPE): Mixers, loaders, applicators and other handlers must wear the following: long-sleeve shirt, long pants, shoes and socks. See engineering controls for additional requirements.

User Safety Requirements: Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

User Safety Recommendations: Users should wash hands before eating, drinking, chewing gum, tobacco, or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

Engineering Controls: Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)]. Human flagging is prohibited. Flagging to support aerial application is limited to use of the Global Positioning System (GPS) or mechanical flaggers.

Other Federal Regulations

SARA TITLE III CLASSIFICATION

Section 302: None

Section 311/312: Acute Health Hazard: Yes (pyrethrins)

Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372

None

CERCLA: Reportable Quantity: 1 lb. pyrethrins. Spills exceeding RQ must be reported to the National Response Center

CWA (Clean Water Act): Reportable Quantity: 1 lb. pyrethrins

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. California Proposition 65: Not listed

STATE RIGHT-TO-KNOW: National, state, provincial or local emergency planning, community right-to-know or other laws, regulations or ordinances may be applicable--consult applicable national, state, provincial or local laws.

SECTION 16. Other Information

DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources we believe to be reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared as is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

End of document

Zenivex® E4

RTU

For use only by federal, state, tribal, or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform adult mosquito control applications, or by persons under their direct supervision.

- **FOR THE CONTROL OF ADULT MOSQUITOES, NON-BITING MIDGES, AND BLACK FLIES**
- **FOR USE AS A SPACE SPRAY BY AIR AND GROUND APPLICATION TO CONTROL ADULT MOSQUITOES**
- **APPROVED FOR USE OVER AGRICULTURAL CROPS (INCLUDING THOSE INTENDED FOR HUMAN CONSUMPTION), PASTURE AND RANGELAND**
- **READY TO USE WITHOUT DILUTION**
- **CONTROLS ADULT MOSQUITOES THAT MAY CARRY WEST NILE VIRUS, EASTERN EQUINE ENCEPHALITIS, ST. LOUIS ENCEPHALITIS**
- **CONTROLS NON-BITING MIDGES, NUISANCE AND BITING FLIES**
- **QUICK, PERMANENT KNOCKDOWN OF ADULT MOSQUITOES**

SPECIMEN LABEL

ACTIVE INGREDIENT:

Etofenprox (CAS #80844-07-1) 4%

OTHER INGREDIENTS*: 96%

Total: 100%

*Contains petroleum distillates

Contains 0.30 lbs etofenprox per gallon

EPA Reg. No. 2724-807

EPA Est. No. 2724-TX-1

KEEP OUT OF REACH OF CHILDREN

CAUTION

See additional Precautionary Statements,

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND
DOMESTIC ANIMALS
CAUTION**

Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Applicators and other handlers must wear long-sleeved shirt, long pants, socks and shoes. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and launder before reuse. Repeated exposure to etofenprox can cause skin irritation.

FIRST AID

If swallowed • Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person.

If in eyes • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. • Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-248-7763 for emergency medical treatment information.

NOTE TO PHYSICIAN: May pose an aspiration pneumonia hazard. Contains petroleum distillate.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic organisms, including fish and aquatic invertebrates. Runoff from treated areas or deposition into bodies of water may be hazardous to fish and other aquatic organisms. Do not apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are

present, and weather conditions will facilitate movement of applied material away from water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or washwaters.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Time applications to provide the maximum possible interval between treatment and the next period of bee activity. Do not apply to blooming crops or weeds when bees are visiting the treatment area, except when applications are made to prevent or control a threat to public and/or animal health determined by a state, tribal, or local health or vector control agency on the basis of documented evidence of disease-causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

PHYSICAL/CHEMICAL HAZARDS

Combustible. Do not use or store near heat or open flame.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. **READ AND FOLLOW ALL LABEL DIRECTIONS.** Before making the first application of the season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist.

GENERAL

ZENIVEX® E4 RTU is an effective insecticide used at low volumes to control adult mosquitoes, non-biting midges, biting and non-biting flies. Use **Zenivex® E4 RTU** undiluted as UltraLow Volume (ULV) for the control of pest species in or near residential, industrial, commercial, urban, recreational areas, woodlands, golf courses, and other areas where these pests are a problem. **Zenivex® E4 RTU** may be applied over agricultural areas prior to or following harvest for the control of adult mosquitoes within or adjacent to these areas. Apply **Zenivex® E4 RTU** aerially (both fixed and rotary aircraft) for low volume applications or through mist-blowers, backpack, and handheld sprayers for ground applications. **Zenivex® E4 RTU** will control mosquitoes and flies and can be used as part of a total integrated pest management program for controlling disease vectors. Apply **Zenivex® E4 RTU** at rates from 0.00175 to 0.0070 pounds of etofenprox per acre by ground ULV. Use this product undiluted only; do not mix with water. Apply when wind is ≥ 1 mph. Do not apply when wind speeds exceed 10 mph. A temperature inversion is preferable to keep the fog close to the ground and applications should be made when labeled insects are most active. Do not spray more than 0.18 lbs etofenprox per acre per site per year. Do not make more than 25 applications per site per year. More frequent

treatments may be made to prevent or control a threat to public and/or animal health determined by a state, tribal, or local health or vector control agency on the basis of documented evidence of disease-causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

GROUND APPLICATION

Use a vehicle-mounted cold aerosol ULV sprayer to apply the product. Direct the spray equipment nozzle to provide even distribution of the product. For best results, apply perpendicular to the wind direction using a swath width of 300 ft. Spray equipment must be adjusted so that the volume median diameter (VMD) is between 10-30 microns ($10\mu \leq D_{v0.5} \leq 30\mu$) and that 90% of the spray is contained in droplets smaller than 50 microns ($D_{v0.9} < 50\mu$). Directions from the equipment manufacturer or vendor, pesticide registrant, or test facility using a laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

The appropriate application rate can be achieved by using the following table. Refer to the following chart for examples.

Application rate pound A.I. per acre	Flow rates		Vehicle Speed
	Undiluted		
	Oz/Acre	Oz/Minute	
0.00175	0.75	2.25	5
		4.50	10
		7.00	15
0.00350	1.5	4.50	5
		9.00	10
		13.50	15
0.00700	3.0	9.00	5
		18.00	10

Use the higher label rates when spraying areas where dense vegetation is present. Conduct applications when temperatures are between 50-95° F.

Backpack Sprayer ULV Application

Apply **Zenivex® E4 RTU** undiluted through non-thermal ULV backpack sprayer capable of applying the product in the 10 to 30 micron range. Apply product to the area as evenly as possible. Apply at the rate of 0.00175 to 0.0070 pounds etofenprox per acre.

Urban ULV Mosquito Control Applications

For control of resting or flying adult mosquitoes, biting flies and non-biting midges in areas such as utility tunnels, sewers, storm drains and catch basins, pipe chases, underground basements, underground passages, parking decks, crawl spaces or uninhabited

buildings, apply **Zenivex® E4 RTU** using mechanical foggers, hand-held or truck-mounted ULV equipment, thermal foggers or other spray equipment suitable for this application. Apply **Zenivex® E4 RTU** at rates up to but not exceeding 0.0070 pounds of etofenprox per acre.

Thermal Fogging Application

Apply using a truck, dolly mounted, handheld, or other thermal fogging equipment. Following the equipment manufacturer's instructions, apply this product at a rate of 0.00175 to 0.0070 pounds etofenprox per acre. Direct fog to areas where mosquitoes and other pests are located. The volume median diameter (VMD) of droplets produced by thermal foggers is less than 60 microns ($D_{v0.5} < 60\mu$) and 90% of the spray is contained in droplets smaller than 100 microns ($D_{v0.9} < 100\mu$).

AERIAL APPLICATION

Apply **Zenivex® E4 RTU** aerially, undiluted, by fixed wing or rotary aircraft. Apply at the rate of 0.00175 to 0.0070 pounds of etofenprox per acre. Apply using ULV equipped and capable aircraft. Spray equipment must be adjusted so that the volume median diameter (VMD) produced is less than 60 microns ($D_{v0.5} < 60\mu$) and that 90% of the spray is contained in droplets smaller than 100 microns ($D_{v0.9} < 100\mu$). The effects of flight speed and, for non-rotary nozzles, nozzle angle on the droplet size spectrum must be considered. Directions from the equipment manufacturer or vendor, pesticide registrant, or test facility using a wind tunnel and laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated. Do not apply **Zenivex® E4 RTU** at altitudes below 100 feet. Apply at altitudes from 100-300 feet. Apply when wind speed on the ground is ≥ 1 mph. Apply when labeled insects are most active. For best results, use Global Positioning System (GPS) equipped aircraft.

IN FLORIDA: Aerial applications of this product require trained personnel to perform industry accepted assays to monitor resistance formation in targeted mosquitoes.

APPLICATIONS OVER CROPS OR TO AREAS FAVORING DRIFT OVER CROPS

Zenivex® E4 RTU may be applied over crops (including row, tree, fruit, citrus, pasture and other areas where agricultural enterprises take place) or to areas, where drift over cropland could occur. **Zenivex® E4 RTU** can be applied to these areas by either ground or aerial application. Use label rates and follow directions for use as directed in this label. Applications over crops or where drift may occur over crops are limited to 4 applications per month to the same site but no more than two applications within a seven day interval. Do not apply more than 0.028 pounds of active

ingredient per month to the same site within a month. Do not spray more than 0.18 lbs etofenprox per acre per site per year. Do not make more than 25 applications per site per year.

PESTICIDE STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

STORAGE AND SPILL PROCEDURES: Store upright at room temperature. Avoid exposure to extreme temperatures. In case of spill or leakage, soak up with an absorbent material such as sand, sawdust, earth, fuller's earth, etc. Dispose of with chemical waste.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Refillable 30 Gallon Drums, 120 Gallon Mini-Tote and 275 Gallon Tote: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. If not refilled, offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration. To clean the container before final disposal, triple rinse (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with mineral oil or other suitable oil diluents. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Non-refillable 2.5 gallon containers: Non-refillable container.** Triple rinse (or equivalent), promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank and drain container for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full of with mineral oil or other suitable oil diluents and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank. Drain container for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Once triple rinsed, recycle if available, or puncture and dispose of in a sanitary landfill, or by incineration.

To the extent consistent with applicable law, seller makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risks of use and handling of this material when such use and handling are contrary to label instructions.

In case of an emergency or for product use information, call **1-800-248-7763**.

www.zenivex.com

Wellmark International

1501 East Woodfield Road 200W
Schaumburg, Illinois 60173





Safety Data Sheet

Section 1: Identification

Product identifier

Product Name

- **Zenivex E4 RTU**

Synonyms

- 100503070; 100503072; 100503073; 100511618; EPA Reg. No.: 2724-807; RF 2146 RTU

Product Description

- Clear to pale yellow liquid.

Relevant identified uses of the substance or mixture and uses advised against**Recommended use**

- Insecticide.

Restrictions on use

- Avoid contact with eyes, skin or clothing. Avoid release to the environment. Avoid inhalation of vapors or fumes. KEEP OUT OF THE REACH OF CHILDREN.

Details of the supplier of the safety data sheet**Manufacturer**

- Wellmark International
1501 E. Woodfield Road, Suite 200W
Schaumburg, IL 60173
United States

Emergency telephone number

- Manufacturer (Transportation)**
- 1-800-424-9300 - CHEMTREC

- Manufacturer (Transportation)**
- 1-703-527-3887 - CHEMTREC - Outside North America - Collect Calls Accepted

- Manufacturer**
- 1-888-914-2082

Section 2: Hazard Identification

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

- OSHA HCS 2012**
- Eye Mild Irritation 2B

Label elements**OSHA HCS 2012****WARNING**

- Hazard statements**
- Causes eye irritation

Precautionary statements

- Prevention**
- Wash thoroughly after handling.

- Response**
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
-
- If eye irritation persists: Get medical advice/attention.

Other hazards**OSHA HCS 2012**

- This product is toxic to aquatic organisms, including fish and invertebrates. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Section 3 - Composition/Information on Ingredients**Substances**

- Material does not meet the criteria of a substance.

Mixtures

Composition		
Chemical Name	Identifiers	%
Etofenprox	CAS:80844-07-1	4%
Isopropyl myristate	CAS:110-27-0	35%
Other ingredients	NDA	61%

Section 4: First-Aid Measures**Description of first aid measures****Inhalation**

- IF INHALED: If breathing is difficult, remove person to fresh air and keep at rest in a position comfortable for breathing. Call a poison control center or doctor for further treatment advice.

Skin

- IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

Eye

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion

- IF SWALLOWED: call a poison center or doctor if you feel unwell. Rinse mouth. Have person drink pint of lukewarm water if able to swallow. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

- Causes eye irritation. Refer to Section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed**Notes to Physician**

- Treat symptomatically and supportively.

Section 5: Fire-Fighting Measures**Extinguishing media**

Suitable Extinguishing Media • Use water, foam, carbon dioxide, or dry chemical.

Unsuitable Extinguishing Media

- Avoid heavy hose streams.

Firefighting Procedures

- Keep unauthorized personnel away.
LARGE FIRES: Dike fire control water for later disposal; do not scatter the material. Stay upwind.
Ventilate closed spaces before entering.

Special hazards arising from the substance or mixture**Unusual Fire and Explosion Hazards**

- None known.

Hazardous Combustion Products

- No data available.

Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures**Personal precautions, protective equipment and emergency procedures****Personal Precautions**

- Avoid contact with skin, eyes, and clothing. Remove clothing and wash thoroughly after use. Use appropriate Personal Protective Equipment (PPE). Do not walk through spilled material. Ensure adequate ventilation to remove vapors, fumes, dust etc.

Emergency Procedures

- Use normal clean up procedures.

Environmental precautions

- Contain and prevent from release into any waterway, sewer or drain.

Methods and material for containment and cleaning up**Containment/Clean-up Measures**

- LARGE SPILLS: Dike far ahead of spill for later disposal.
SMALL SPILLS: Take up with sand or other non-combustible absorbent material and place into containers for later disposal.

Section 7 - Handling and Storage**Precautions for safe handling****Handling**

- Wash hands thoroughly with soap and water after handling. Read label before use. Avoid contact with skin or eyes.

Conditions for safe storage, including any incompatibilities**Storage**

- Keep from freezing. Keep only in the original container.

Incompatible Materials or Ignition Sources

- No data available.

Other Information

- See product label for additional information.

Section 8 - Exposure Controls/Personal Protection**Control parameters****Exposure Limits/Guidelines**

- No data available.

Exposure controls**Engineering Measures/Controls**

- Use adequate ventilation to remove vapors (fumes, dust etc)

Personal Protective Equipment

Pictograms**Respiratory**

- In case of insufficient ventilation, use NIOSH approved respiratory protection.

Eye/Face

- Wear safety glasses.

Hands

- Wear appropriate gloves.

Skin/Body

- If prolonged exposure is anticipated, it is recommended for handlers to wear appropriate clothing to prevent skin contact.

General Industrial Hygiene Considerations

- Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

Environmental Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Clear to pale yellow liquid.
Color	Clear to pale yellow.	Odor	Mild
Odor Threshold	No data available		
General Properties			
Boiling Point	No data available	Melting Point	No data available
Decomposition Temperature	No data available	pH	No data available
Specific Gravity/Relative Density	0.89 @ 20°C / 7.4 lb./gal	Bulk Density	No data available
Water Solubility	Insoluble	Viscosity	< 100 Centipoise (cPs, cP) or mPas @ 20 C(68 F)
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		
Flammability			
Flash Point	217°F (103°C)	UEL	No data available
LEL	No data available	Flame Duration	No data available
Flammability (solid, gas)	Not Flammable.		
Environmental			
Octanol/Water Partition coefficient	No data available		

Section 10: Stability and Reactivity

Reactivity

- No dangerous reaction known under conditions of normal use.

Chemical stability

- Stable

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- Extreme temperatures. Keep away from fire.

Incompatible materials

- Strong oxidizing agents.

Hazardous decomposition products

- Thermal decomposition may produce toxic gases.

Section 11 - Toxicological Information

Information on toxicological effects

	CAS	
Zenivex E4 RTU	NDA	Acute Toxicity: Ingestion/Oral-Rat LD50 • >5000 mg/kg; Inhalation-Rat LC50 • >2.05 mg/L; Skin-Rat LD50 • >5000 mg/kg; Irritation: Eye-Rabbit • Mild irritation; Skin-Rabbit • Mild irritation

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • Acute Toxicity - Dermal - Classification criteria not met; Acute Toxicity - Inhalation - Classification criteria not met; Acute Toxicity - Oral - Classification criteria not met
Aspiration Hazard	OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	OSHA HCS 2012 • Classification criteria not met
Germ Cell Mutagenicity	OSHA HCS 2012 • Classification criteria not met
Skin corrosion/Irritation	OSHA HCS 2012 • Classification criteria not met
Skin sensitization	OSHA HCS 2012 • Classification criteria not met
STOT-RE	OSHA HCS 2012 • Classification criteria not met
STOT-SE	OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	OSHA HCS 2012 • Classification criteria not met
Respiratory sensitization	OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	OSHA HCS 2012 • Eye Mild Irritation 2B

Route(s) of entry/exposure • Inhalation, Ingestion, Eyes, and Skin

Potential Health Effects

Inhalation

- Acute (Immediate)** • May cause respiratory irritation.
- Chronic (Delayed)** • No data available.

Skin

- Acute (Immediate)** • May cause mild irritation.
- Chronic (Delayed)** • Repeated exposure to etofenprox can cause skin irritation.

Eye

- Acute (Immediate)** • May cause irritation.
- Chronic (Delayed)** • No data available.

Ingestion

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)** • No data available.

Section 12 - Ecological Information

Toxicity

Component	CAS	Data
Etofenprox (4%)	80844-07-1	Crustacea: 96 Hour(s) LC50 Crustacea <i>Mysid shrimp</i> 0.0000188 mg/L ; 48 Hour(s) LC50 Water Flea <i>Daphnia magna</i> 0.0008 mg/L ; NOEC Water Flea <i>Daphnia magna</i> 0.00017 mg/L ; Fish: 96 Hour(s) LC50 Fish <i>Sheepshead minnow</i> >0.0165 mg/L ; 96 Hour(s) LC50 Fish <i>Rainbow Trout</i> 0.0027 mg/L

Persistence and degradability

- No data available.

Bioaccumulative potential

- No data available.

Mobility in Soil

- No data available.

Other adverse effects

- No studies have been found.

Potential Environmental Effects

- This product is toxic to aquatic organisms, including fish and invertebrates. This product is highly toxic to bees exposed to direct treatment. Care should be taken to avoid contamination of the environment.

Section 13 - Disposal Considerations

Waste treatment methods

Product waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class(es)	Packing group	Environmental hazards
DOT	Not Applicable	Not Regulated	Not Applicable	Not Applicable	Not Applicable
IMO/IMDG	UN3082	Environmentally hazardous substance, liquid, n.o.s (Etofenprox)	9	III	Marine Pollutant
IATA/ICAO	UN3082	Environmentally hazardous substance, liquid, n.o.s (Etofenprox)	9	III	Acute Aquatic Toxicity

Special precautions for user

- None specified.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- Not relevant.

Other information

IMO/IMDG • No data available

IATA/ICAO • No data available

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Acute

FIFRA – Pesticide Labeling

This material is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION

Precautionary Statements • Keep out of reach of children.

Hazards to Humans and Domestic Animals • HAZARDS TO HUMANS & DOMESTIC ANIMALS - CAUTION Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Applicators and other handlers must wear long-sleeved shirt, long pants, socks and shoes. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and launder before reuse. Repeated exposure to etofenprox can cause skin irritation.

First Aid • If swallowed • Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person. If in eyes • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. • Call a poison control center or doctor for treatment advice. Note to Physician: May pose an aspiration pneumonia hazard. Contains petroleum distillate.

Environmental Hazards • ENVIRONMENTAL HAZARDS This pesticide is toxic to aquatic organisms, including fish and aquatic invertebrates. Runoff from treated areas or deposition into bodies of water may be hazardous to fish and other aquatic organisms. Do not apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material away from water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or washwaters. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Time applications to provide the maximum possible interval between treatment and the next period of bee activity. Do not apply to blooming crops or weeds when bees are visiting the treatment area, except when applications are made to prevent or control a threat to public and/or animal health determined by a state, tribal, or local health or vector control agency on the basis of documented evidence of disease-causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

Inventory		
Component	CAS	TSCA
Etofenprox	80844-07-1	No
Isopropyl myristate	110-27-0	Yes

Section 16 - Other Information

- Revision Date** ● 15/June/2017
- Last Revision Date** ● 17/June/2015
- Preparation Date** ● 17/June/2015
- Disclaimer/Statement of Liability** ● The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.
-

Revision Statement: Revised Section 14



MERUS® 3.0

FOR USE IN ORGANIC PRODUCTION

For control of adult mosquitoes in Outdoor Residential, Recreational, Urban, Industrial, and Agricultural Areas. For use over agricultural crops, including those intended for human consumption, pasture, and rangeland. For Aerial and Ground ULV Application.

Active Ingredient:

Pyrethrins, a botanical insecticide	5.0%
Other Ingredients	95.0%
	100.0%

Contains 0.365 pounds Pyrethrins per gallon

KEEP OUT OF REACH OF CHILDREN

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Personal Protective Equipment (PPE): Mixers, loaders, applicators and other handlers must wear the following: long-sleeve shirt, long pants, shoes and socks. See engineering controls for additional requirements.

User Safety Requirements: Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

User Safety Recommendations: Users should wash hands before eating, drinking, chewing gum, tobacco, or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

Engineering Controls: Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)]. Human flagging is prohibited. Flagging to support aerial application is limited to use of the Global Positioning System (GPS) or mechanical flaggers.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic organisms, including fish and aquatic invertebrates. Runoff from treated areas or deposition of spray droplets into a body of water may be hazardous to fish and aquatic invertebrates. Before making the first application in a season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist. Do not apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material away from the water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or washwaters.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are foraging the treatment area, except when applications are made to prevent or control a threat to public and/or animal health determined by a state, tribal or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes, or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

USE RESTRICTIONS

This product is not for use in outdoor residential misting systems. Do not apply this product with thermal fogging equipment. Do not apply this product in enclosed spaces using hand-held or portable backpack spray equipment. Do not make applications during rain.

For use only by federal, state, tribal or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform adult mosquito control applications, or by persons under their direct supervision.

IN CALIFORNIA: This product is to be applied by County Health Department, State Department of Health Services, Mosquito and Vector Control or Mosquito Abatement District personnel, or persons under contract to these entities only.

IN FLORIDA: Aerial applications of this product require trained personnel to perform industry accepted assays to monitor resistance formation in targeted mosquitoes.

The maximum application rate for wide-area mosquito adulticide applications is 0.0025 lb a.i./acre per day. When targeting *Aedes taeniorhynchus* and other difficult species, applications may be made up to 0.008 lb a.i./acre/day.

Do not apply more than 0.2 lb a.i./acre/year in any treated area. More frequent treatments may be made to prevent or control a threat to public and/or animal health determined by a state, tribal, or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

SPRAY DRIFT MANAGEMENT for WIDE AREA MOSQUITO ABATEMENT

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, airblast, chemigation) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

WIND SPEED: Apply only when wind speed is greater than 1 mph.

USE INFORMATION

MERUS® 3.0 is approved for application as an Ultra Low Volume (ULV) non-thermal aerosol (cold fog) in mosquito adulticiding programs involving outdoor residential, urban, industrial, and recreational areas where adult mosquitoes are present in annoying numbers, and in vegetation surrounding parks, woodlands, swamps, marshes, overgrown areas and golf courses.

MERUS® 3.0 may be applied over crops or to areas favoring drift over crops, including row, tree, fruit, citrus, pasture and other areas where agricultural enterprises take place.

MERUS® 3.0 may be used undiluted or diluted with suitable light mineral oil and applied as an ultra low volume (ULV) non-thermal aerosol (cold fog) or in suitable mechanical spray equipment. MERUS® 3.0 cannot be diluted in water.

SPRAY DROPLET SIZE DETERMINATION

Ground-based wide-area mosquito abatement application: Spray equipment must be adjusted so that the volume median diameter is less than 30 microns ($D_v < 30 \mu m$) and that 90% of the spray is contained in droplets smaller than 50 microns ($D_v < 50 \mu m$). Directions from the equipment manufacturer or vendor, pesticide registrant, or a test facility using a laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

Aerial wide-area mosquito abatement application: Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns ($D_v 0.5 < 60 \mu m$) and that 90% of the spray is contained in droplets smaller than 80 microns ($D_v 0.9 < 80 \mu m$). The effects of flight speed, and for non-rotary nozzles, nozzle angle on the droplet size spectrum must be considered. Directions from the equipment manufacturer or vendor, pesticide registrant, or a test facility using a wind tunnel and laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

GROUND ULV APPLICATION

To control Mosquitoes, apply MERUS® 3.0 at a flow rate of 3.4 to 5.3 fluid ounces per minute at an average vehicle speed of 10 MPH using a swath width of 300 feet for acreage calculations (see chart below). These rates are equivalent to 0.0016 to 0.0025 lb a.i./acre. Within this range, vary flow rate according to vegetation density and mosquito population. Use higher rate in heavy vegetation or when pest population numbers are high. For best results, apply when mosquitoes are most active and meteorological conditions are conducive to keeping the spray cloud close to the ground. Application in calm air conditions is to be avoided. Apply only when ground wind speed is greater than or equal to 1 MPH. All types of applications should be conducted at temperatures above 50°F.

Use the following table to calculate application rates:

lb a.i./acre	Application Rates (Fl.oz./Minute) at vehicle speeds of:				Fl. oz. MERUS® 3.0/acre
	5 MPH	10 MPH	15 MPH	20 MPH	
0.0025	2.7	5.3	8.0	10.6	0.88
0.0021	2.2	4.5	6.7	8.9	0.74
0.0018	1.9	3.8	5.7	7.7	0.63
0.0016	1.7	3.4	5.1	6.8	0.56

Applications up to 2.81 fl.oz. (0.008 lb a.i.)/acre may be made when targeting *Aedes taeniorhynchus* or other difficult to control species.

lb a.i./acre	Application Rates (Fl.oz./Minute) at vehicle speeds of:				Fl. oz. MERUS® 3.0/acre
	5 MPH	10 MPH	15 MPH	20 MPH	
0.008	8.5	17.0	25.5	34.0	2.81

If dilution is preferred, adjust the flow rate accordingly to achieve 0.0016 to 0.0025 lb a.i./acre. Applicable flow rates for a 1 part concentrate to 1 part oil dilution are presented. If an alternate dilution rate is used, adjust the flow rate accordingly.

Rates to use a 2.5% pyrethrins dilution (1 to 1 dilution ratio) for mosquito control:

lb a.i./acre	Application Rates (Fl.oz./Minute) at vehicle speeds of:				Fl. oz. Finished Spray/acre
	5 MPH	10 MPH	15 MPH	20 MPH	
0.0025	5.3	10.6	15.9	21.3	1.75
0.0021	4.5	8.9	13.4	17.9	1.47
0.0018	3.8	7.7	11.5	15.3	1.26
0.0016	3.4	6.8	10.2	13.6	1.12

Urban ULV Mosquito Control: MERUS® 3.0 may be applied for control of resting or flying adult mosquitoes in urban and industrial areas such as utility tunnels, pipe chases, underground basements, underground passages, parking decks, open parking garages, abandoned warehouses, crawl spaces, uninhabited buildings, rail yards, waste yards, junkyards, tire dumps, and other areas where adult mosquitoes might be found. Apply using handheld or truck-mounted ULV equipment, or other spray equipment suitable for this application. Apply at rates up to but not exceeding 0.0025 lb a.i./acre/day (0.88 fluid ounces of undiluted spray/acre/day). Do NOT use hand-held equipment for this type of application in enclosed spaces.

MERUS® 3.0 may also be applied with non-thermal, portable, motorized backpack equipment adjusted to deliver ULV particles of less than 100 microns VMD. Use 0.56 to 0.88 fl.oz. of the undiluted spray per acre (equal to 0.0016 to 0.0025 lb.ai./acre)

as a 50 ft (15.2 m) swath while walking at a speed of 2 MPH (3.2 KPH). Dilute with a suitable mineral oil if dilution is preferred. Do NOT use portable backpack equipment for application in enclosed spaces.

AERIAL APPLICATION

Apply using nozzle height of no less than 100 feet for fixed wing aircraft or 75 feet for rotary wing aircraft above the ground or canopy, unless specifically approved by the state or tribe based on public health needs.

Apply by suitable fixed wing or rotary aircraft equipped with nozzles capable of producing a non-thermal (cold fog) aerosol spray cloud with appropriately sized droplets. Flow rate and swath width should be set so as to achieve 0.56 to 0.88 fluid ounces of undiluted MERUS® 3.0 per acre.

MERUS® 3.0 may also be diluted with suitable diluent light mineral oil and applied by suitable aircraft at appropriate flow rates to achieve a dosage of 0.0016 to 0.0025 lb a.i./acre. Diluted or undiluted, applications up to 2.81 fl.oz. MERUS® 3.0 (0.008 lb a.i.)/acre/day may be made when targeting *Aedes taeniorhynchus* or other difficult to control species.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

PESTICIDE STORAGE: Store in a cool, dry place. Keep container closed.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING:

For Nonrefillable containers of 5 gallons or less. Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with mineral oil and recap. Shake for 10 seconds. Pour rinsate into application equipment or a rinse tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

For Refillable Containers. Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into rinsate collection system. Repeat this rinsing procedure two more times. Offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. **For medical emergencies or information on health concerns for this product, you may call 1-800-214-7753.** For non-emergency information, on product usage for example, call 1-800-323-5727. In case of transportation emergency, call INFO-TRAC 1-800-553-5053.

NOTICE: To the extent consistent with applicable law, Clarke Mosquito Control Products, Inc. makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. To the extent consistent with applicable law, Buyer assumes all risk of use/handling of this material when use and/or handling is contrary to label instructions.

MERUS®-Trademark of Clarke Mosquito Control Products, Inc.

MANUFACTURED BY
CLARKE MOSQUITO CONTROL PRODUCTS, INC.

159 N. GARDEN AVENUE
ROSELLE, ILLINOIS 60172

EPA Reg. No.:8329-108

EPA Est. No.: _____

Lot No.: Marked on Container Label

Available Container Sizes: 2.5 gal, 30 gal, 55 gal, 275 gal



SAFETY DATA SHEET

MERUS® 3.0

Effective Date: 18 October 2021

v.03

Page 1 of 7

SECTION 1. Identification of the Substance/Mixture and of the Company

1.1 Product Identifier

Formulation Identifier: MERUS® 3.0

EPA Registration Number: 8329-108

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Relevant Identified Uses: Insecticide for control of adult mosquitoes

Uses Advised Against: See product label for use restrictions

1.3 Details of the Supplier of the Safety Data Sheet

Clarke Mosquito Control Products, Inc.
675 Sidwell Court
St. Charles, IL 60174 U.S.A.
+1 (630) 894-2000
Email: Clarke@clarke.com

1.4 Emergency Telephone Number

24 hour Medical Emergency: POISON CONTROL (800) 214-7753

24 hour Transportation Emergency: INFOTRAC (800) 535-5053

SECTION 2. Hazards identification

United States (US)
According to OSHA 29 CFR 1910.1200 HCS (2012)

2.2 Classification of the Substance or Mixture

Classification

Skin Sensitization, Category 1

Hazard Statements

May cause allergic skin reaction

Pictogram:



Signal Word: Warning

Precautionary Statements:

PREVENTION: Avoid breathing mist/vapors/spray. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves.

RESPONSE: If on Skin: Wash with plenty of water. If skin irritation or rash occurs, get medical advice/attention. See label for specific treatment instruction. Wash contaminated clothing before reuse.

DISPOSAL: Dispose of contents/container in accordance with local/regional/national regulations.

Other Hazards Not Classifiable Under OSHA 2012 HCS

See product label for any additional hazards



SAFETY DATA SHEET

MERUS® 3.0

Effective Date: 18 October 2021

v.03

Page 2 of 7

SECTION 3. Composition/Information on Ingredients

3.1 Components

Substance Name	Concentration % w/w	OSHA HCS Classification
Pyrethrins	5.0	Acute Toxicity – Inhalation Cat. 4
Inert Ingredient #1	75.00	

Ingredients not identified are non-hazardous and/or are not required to be disclosed pursuant to 29 CFR 1910.1200 (2012), and are withheld as trade secret.

SECTION 4. First Aid Measures

4.1 Description of First Aid Measures

- If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
- If in Eyes: Immediately flush eyes with water. Flush eyes with water for a minimum of 5 minutes, occasionally lifting and lowering upper lids. Get medical attention promptly. Remove contact lenses if worn.
- If Swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
- If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed.

The most important known symptoms and effects are described in section 2 and/or in section 11.

4.3 Indication of Immediate Medical Attention and Special Treatment

Treatment: Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. For medical treatment information, contact the poison control hotline at 1-800-214-7753. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

For skin effects, a highly efficient therapeutic agent for pyrethrins/pyrethroid exposure is topical application of tocopherol acetate (vitamin E).

SECTION 5. Fire-Fighting Measures

5.1 Extinguishing Media

Suitable Extinguishing Media: Carbon Dioxide (CO₂), Dry Chemical, Foam, Alcohol Foam

Unsuitable Extinguishing Media: Water jet

5.2 Special Hazards Arising From the Substance or Mixture

Specific Hazards: Under fire conditions some components may decompose. Combustion products may include CO and NOx.

5.3 Special Protective Equipment and Precautions for Fire-Fighters

Protection Against Fire: Wear positive pressure, self-contained breathing apparatus and protective firefighting clothing (includes fire-fighting helmet, coat, pants, boots, and gloves).

Special Procedures: Move container from fire area if it can be done without risk. Do not scatter spilled material with high-pressure water streams. Dike for later disposal. Use extinguishing agents



SAFETY DATA SHEET

MERUS® 3.0

Effective Date: 18 October 2021

v.03

Page 3 of 7

appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

SECTION 6. Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

General Precautions: Use appropriate protection (see section 8)

Environmental Precautions: Prevent product from entering into drains and waterways. Collect and dispose of this material and its container in accordance with national and regional regulations. If the product has contaminated surface water, inform the appropriate authorities. See Section 12 for additional ecological information.

6.2 Methods and Material for Containment and Cleaning Up

Clean Up Methods: Soak up with absorbent, non-combustible material, such as sand, silica gel, clay, or sawdust, while using appropriate personal protection equipment. Collect material in appropriate container for disposal.

SECTION 7. Handling and Storage

7.1 Precautions for Safe Handling

Handling: Keep out of reach of children. Do not take internally. Avoid contact with skin and eyes. Avoid inhalation of vapors from product.

Hygiene Measures: Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove soiled clothing immediately and clean thoroughly before using again.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

Storage: Product should be stored in compliance with local regulations. Store in a cool, dry, well-ventilated place in the original container. Protect from excessive heat and cold. Do not store near food, drink, animal feeding stuffs, pharmaceuticals, cosmetics or fertilizers. Keep out of reach of children.

SECTION 8. Exposure Controls / Personal Protection

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

8.1 Control Parameters

Component Name	CAS No.	List/Source	Type	Value
Pyrethrins	8003-34-7	ACGIH	TLV	5 mg/m ³
		NIOSH	TWA	5 mg/m ³
		OSHA	PEL/TWA	5 mg/m ³

8.2 Exposure controls

Engineering Controls: Use with adequate ventilation. Wash hands thoroughly after handling. Wash clothing before re-using.

Individual Protection Measures, such as Personal Protection Equipment:

Eye Protection: Safety Glasses, Goggles or Face Shield are recommended to be worn.

Skin Protection: Wear suitable protective clothing including long-sleeve shirt, long pants, shoes and socks.

Hand Protection: Wear suitable protective chemical resistant gloves such as barrier laminate, nitrile rubber, neoprene rubber, or Viton.



SAFETY DATA SHEET

MERUS® 3.0

Effective Date: 18 October 2021

v.03

Page 4 of 7

Respiratory Protection: None required under normal use of the product. In instances where exposure limits are exceeded, wear a NIOSH-approved pesticide respirator with an organic-vapor removing cartridge with a prefilter approved for pesticides.

SECTION 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Appearance:	Clear liquid
Color:	Golden yellow
Odor:	Earthy, raisin-like
Odor Threshold:	Not Available
pH:	Not Determined
Melting Point:	Not Applicable
Freezing Point:	Not Determined
Initial Boiling Point:	Not Determined
Flash Point:	160°C
Evaporation Rate:	Not Determined
Flammability:	Not Determined
Explosion limits [U/L]:	Not Determined
Vapor Pressure:	Not Determined
Vapor Density:	Not Determined
Relative Density:	0.874 g/ml (7.29 lbs/gal)
Solubility:	Not Determined
Partition Coefficient:	Not Determined
Auto-Ignition Temperature:	Not Determined
Viscosity:	10.57 cP at 20°C
Decomposition Temperature:	Not Available
Explosive Properties:	Not Available
Oxidizing Properties:	Not Available

SECTION 10. Stability and Reactivity

10.1 Reactivity

Not Available

10.2 Chemical Stability

Stable under normal conditions

10.3 Possibility of Hazardous Reactions

Hazardous Reactions: None under normal conditions

Hazardous Polymerization: Not known to occur

10.4 Conditions to Avoid

Protect from direct sunlight and excessive heat. Avoid heat, flames, sparks and other sources of ignition.

10.5 Incompatible Materials

Avoid contact with strong oxidizing agents, strong acids, strong bases



SAFETY DATA SHEET

MERUS® 3.0

Effective Date: 18 October 2021

v.03

Page 5 of 7

10.6 Hazardous Decomposition Products

None known under normal conditions of storage and use

SECTION 11. Toxicological Information

11.1 Information on Likely Routes of Exposure

Routes of entry: Oral, Dermal, Inhalation

11.2 Information on Toxicological Effects

Acute Toxicity/Effects

Oral, Rat LD₅₀ : >5,000 mg/kg-bw

Dermal, Rat LD₅₀ : > 5,000 mg/kg-bw

Inhalation, Rat LC₅₀ : > 5.12 mg/L

Skin Corrosion/Irritation: Not corrosive or irritating to the skin on acute exposure. Mild skin irritation or cracking may occur from prolonged or repeated exposure to this product. Primary Irritation Index PII = 1.5

Serious Eye Damage/Irritation: Not an eye irritant.

Skin Sensitization: Skin sensitizer

STOT – Single exposure No data is available to indicate product or any components present at greater than 0.1% present a specific target organ toxicity hazard from single exposure.

Chronic Toxicity/Effects

Germ Cell Mutagenicity

This product has not been tested. No data is available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity:

This product does not contain any carcinogens as listed by OSHA, IARC, or NTP.

Slightly elevated incidences of benign tumors of the thyroid and liver were seen in rats following lifetime administration of Pyrethrins. Further detailed scientific studies into the mode of action responsible for these effects show that: (1) because of biological species differences, the rat thyroid tumors are not relevant to humans, and (2) the rat liver tumors occur in animals only at doses greatly exceeding human exposure levels and that cause cell proliferation (mitogenesis). Based on these data, the US EPA has classified Pyrethrins as "Not Likely to be Carcinogenic to Humans" at doses that do not cause a mitogenic response in the liver/cell proliferation. Thus, Pyrethrins can be considered to be noncarcinogenic at exposure levels relevant to human use of Pyrethrins-containing products.

Reproductive Effects: No data is available to indicate product or any components present at greater than 0.1% cause reproductive or teratogenic toxicity.

STOT – Repeated Exposure: No data available

Additional Information: None

SECTION 12. Ecological Information

12.1 Ecotoxicity

Product specific data is not available. Data referenced is in relation to the active ingredient, Pyrethrins.

Toxicity to Fish: 96-hr Acute LC₅₀ 5.1 µg/L, Rainbow Trout
96-hr Acute LC₅₀ 16.0 µg/L, Sheepshead Minnow



SAFETY DATA SHEET

MERUS® 3.0

Effective Date: 18 October 2021

v.03

Page 6 of 7

Toxicity to Aquatic Invertebrates: 48-hr Acute EC₅₀ 11.6 µg/L, Water Flea (*Daphnia magna*)
48-hr LC₅₀ 1.4 µg/L, Mysid Shrimp (*Americamysis bahia*)

Toxicity to Aquatic Plants: No information available

12.1 Persistence and Degradability

Product specific data not available. Data referenced is in relation to the active ingredient, Pyrethrins.

pK_{ow}: 5.90 and 4.30

Mobility in Soil: Immobile in soil

Partition Coefficient, K_{oc}: 12,400 to 37,840

SECTION 13. Disposal Considerations

13.1 Waste Treatment and Disposal methods

Pesticide wastes are regulated. Consult product label for chemical substance and container disposal instructions. Avoid release to the environment. Improper disposal of excess product or rinsate is a violation of the Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA regional office for guidance.

Container disposal: Rinse thoroughly in accordance with label instructions.

SECTION 14. Transport Information

14.1 DOT (US)

UN Number: 3082
Hazard Class: 9
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S.
Technical Name: Pyrethrins

14.2 IMDG (Vessel)

UN Number: 3082
Hazard Class: 9
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S.
Technical Name: Pyrethrins
Marine Pollutant: Yes

14.3 ICAO/IATA (Air transport)

UN Number: 3082
Hazard Class: 9
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S.
Technical Name: Pyrethrins
Environmental Hazard: Yes

SECTION 15. Regulatory Information

FIFRA Information: This chemical is a pesticide product regulated by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information for safety data sheet, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

KEEP OUT OF REACH OF CHILDREN



SAFETY DATA SHEET

MERUS® 3.0

Effective Date: 18 October 2021

v.03

Page 7 of 7

PRECAUTIONARY STATEMENTS: HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Personal Protective Equipment (PPE): Mixers, loaders, applicators and other handlers must wear the following: long-sleeve shirt, long pants, shoes and socks. See engineering controls for additional requirements.

User Safety Requirements: Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

User Safety Recommendations: Users should wash hands before eating, drinking, chewing gum, tobacco, or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

Engineering Controls: Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)]. Human flagging is prohibited. Flagging to support aerial application is limited to use of the Global Positioning System (GPS) or mechanical flaggers.

Other Federal Regulations

SARA TITLE III CLASSIFICATION

Section 302: None

Section 311/312: Acute Health Hazard: Yes (pyrethrins)

Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372

None

CERCLA: Reportable Quantity: 1 lb. pyrethrins. Spills exceeding RQ must be reported to the National Response Center

CWA (Clean Water Act): Reportable Quantity: 1 lb. pyrethrins

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. California Proposition 65: Not listed

STATE RIGHT-TO-KNOW: National, state, provincial or local emergency planning, community right-to-know or other laws, regulations or ordinances may be applicable--consult applicable national, state, provincial or local laws.

SECTION 16. Other Information

DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources we believe to be reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared as is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

End of document

Mercer County Mosquito Control

Municipalities are encouraged to share this information with all residents in their community

WHAT ARE THE SYMPTOMS OF EXPOSURE TO ANVIL?

Irritation or sensitization sometimes occurs after exposure, causing an asthmatic condition or skin rash. The chance of experiencing these symptoms of exposure with proper use is low. You should contact your physician, other medical providers or the New Jersey Poison Information and Education System (NJPIES) at 1-800-222-1222 if you experience these symptoms following a pesticide spraying.

HOW LONG WILL ANVIL LAST IN THE ENVIRONMENT?

The ANVIL spray stays in the air for a short time until it lands on surfaces. SUMITHRIN has a low persistence and breaks down in water and soil within 1 to 25 days. SUMITHRIN breaks down faster in sunlight.

WHERE CAN I GET MORE INFORMATION ON ANVIL?

The following are resources for more information regarding ANVIL and mosquito control in your area:

For overall pesticide-specific information - 9:30am to 7:30pm:

National Pesticide Information Center

800-858-7378

For pesticide health information & possible exposures - 24 hours: **New Jersey Poison Information & Education System**

800-222-1222

For New Jersey pesticide regulation & misuse complaints: **NJDEP Pesticide Control Program**

609-984-6568

For Federal pesticide regulations:

USEPA Region 2 Office of Pesticide Programs

732-321-6759

For state-wide mosquito control information:
NJDEP Office of Mosquito Control Coordination

609-292-3649

For local mosquito control information:
Mercer County Mosquito Control

609-530-7501

Mercer County Mosquito Control

Municipalities are encouraged to share this information with all residents in their community

Whenever possible, remain indoors with windows closed and with window air conditioners on non-vent (closed to the outside air) and window fans turned off during spraying.

Avoid direct contact with surfaces that are still wet from pesticide spraying. Do not allow children to play in areas that have been sprayed until they have completely dried (approximately one hour).

If

you must remain outdoors, avoid eye and skin contact with the spray. If you get spray in your eyes or on your skin, immediately flush and rinse with water.

What are the symptoms of exposure to *Duet Dual-Action*™?

Symptoms of over-exposure can include irritation to skin and eyes, respiratory and nasal irritation, irritability to sound or touch, abnormal facial sensation, sensation of prickling, tingling or creeping of skin, numbness, headache, dizziness, nausea, vomiting, diarrhea, excessive salivation, and fatigue. The chance of experiencing these symptoms of over-exposure with proper use is low. You should contact your physician, other medical providers, or the New Jersey Poison Information and Education System (NJPIES) at 1- 800-222-1222 if you experience these symptoms following a pesticide spraying.

How long will *Duet Dual-Action*® last in the environment?

Pyrethroids have a soil half-life of 12 days. They have an extremely low pesticide movement rating because they bind tightly to the soil. Pyrethroids are unstable in light and air. They rapidly degrade in sunlight at the soil surface and in water. Piperonyl butoxide has a soil half-life of approximately 4 days.

Where can I get more information on this adulticide?

The following are resources for more information regarding *Duet Dual-Action*® and mosquito control in your area (unless otherwise noted, available during normal

business hours):

For overall pesticide-specific information - 9:30am to

7:30pm: **National Pesticide Information Center**

800-858-7378

For pesticide health information & possible exposures - 24 hours:

New Jersey Poison Information & Education System

800-222-1222

For New Jersey pesticide regulation & misuse
complaints:

NJDEP Pesticide Control Program

For Federal pesticide regulations:

609-984-6568

USEPA Region 2 Office of Pesticide Programs

732-321-6759

For state-wide mosquito control information: **NJDEP**

Office of Mosquito Control Coordination

609-292-3649

For local mosquito control
information: **Mercer County**
Mosquito Control

609-530-7501

For mosquito control recommendations:

Rutgers University, Department of Entomology

732-932-9437

Mercer County Mosquito Control

Municipalities are encouraged to share this information with all residents in their community

Fyfanon

This sheet answers some basic questions about a mosquito control product in use in your county. Mercer County Mosquito Control, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What is Fyfanon and how is it used?

Fyfanon is an insecticide product that is recommended for mosquito control in New Jersey by Rutgers, The State University of New Jersey. It contains the pesticide called **“Malathion.”** The U.S. Environmental Protection Agency’s (EPA) current evaluation considers **Malathion**-containing products to be slightly toxic with minimal potential risk to people when used properly as part of a complete mosquito control program.

Fyfanon is used for the control of adult mosquitoes. While habitat management and measures to control immature mosquitoes in water are the preferred routine approaches, the spraying of adult mosquitoes is called for when biting populations reach critical levels or when a disease organism is present in adult mosquitoes. A very fine mist is sprayed into the air since flying mosquitoes must directly contact the pesticide in order for it to be effective.

How can I avoid exposure to Fyfanon?

Risk to the general public from the use of **Fyfanon** is minimal. Avoiding exposure is always the safest course of action, particularly for populations that may be at higher risk such as pregnant women, children, the elderly and those with chronic illnesses. Any possible exposure risk can be reduced by following some common-sense actions:

- Pay attention to notices about spraying found through newspapers, websites, automated telephone messages or distributed by municipal, county or state agencies.
- Plan your activities to limit time spent outside during times of possible pesticide treatments.
- Move children’s toys out of application areas.
- Move animals and their food and water dishes out of application areas.
- Stay away from application equipment, whether in use or not.
- Whenever possible, remain indoors with windows closed and with window air conditioners on non-vent (closed to the outside air) and window fans turned off during spraying.
- Avoid direct contact with surfaces that are still wet from pesticide spraying. Do not allow children to play in areas that have been sprayed until they have completely dried (approximately one hour).
- If you must remain outdoors, avoid eye and skin contact with the spray. If you get spray in your eyes or on your skin, immediately flush and rinse with water.

What are the symptoms of exposure to Fyfanon?

Symptoms of exposure can include headache, nausea, dizziness, excessive sweating, salivation, excessive tearing and a runny nose. The chance of experiencing these symptoms of exposure with proper use is low. You should contact your physician, other medical providers or the New Jersey Poison Information and Education System (NJPIES) at **1-800-222-1222** if you experience these symptoms following a pesticide spraying. Bring this sheet with you if you visit a physician or other medical provider.

How long will Fyfanon last in the environment?

The **Fyfanon** spray stays in the air for a short time until it lands on surfaces. **Malathion** has a low persistence and lasts no longer than 25 days in water and soil. **Malathion** breaks down faster in sunlight.

Where can I get more information on this adulticide?

The following are resources for more information regarding Etofenprox and mosquito control in your area (unless otherwise noted, available during normal business hours):

For overall pesticide-specific information – 9:30am to 7:30pm:

National Pesticide Information Center **800-858-7378**

For pesticide health information & possible exposures – 24 hours:

New Jersey Poison Information & Education System **800-222-1222**

For New Jersey pesticide regulation & misuse complaints:

NJDEP Bureau of Pesticide Compliance & Enforcement **609-984-6568**

For Federal pesticide regulation:

USEPA Region 2 Office of Pesticide Programs **877-251-4575**

For statewide mosquito control information:

NJDEP Office of Mosquito Control Coordination **609-292-3649**

For local mosquito control information:

Mercer County Mosquito Control **609-530-7501**

For mosquito control recommendations:

Rutgers University, Department of Entomology **848-932-9774**

BACK COVER
(Last Page)
6.6875"

BOOK OUTSIDE

FRONT COVER
(Page 1)
6.875"

6.5"

Weed Species	Broadcast Rate (QT/A)	Hand-Held Spray-to-Wet % Solution
Alder	3-4	1-1.5
Ash*	2-5	1-2
Aspen, quaking	2-3	1-1.5
Bearclover (Bearnat)*	2-5	1-2
Beech*	2-5	1-2
Birch	2	1
Blackberry	3-4	1-1.5
Blackgum	2-5	1-2
Bracken	2-5	1-2
Broom, French, Scotch	2-5	1.5-2
Buckwheat, California*	2-4	1-2
Casara*	2-5	1-2
Catsclaw*	-	1-1.5
Ceanothus*	2-5	1-2
Chamise*	2-5	1
Cherry, bitter, black, pin	2-3	1-1.5
Coyote brush	3-4	1.5-2
Deerweed	2-5	1
Dogwood*	2-5	1-2
Elderberry	2	1
Elm*	2-5	1-2
Eucalyptus	-	2
Gorse*	2-5	1-2
Hasardia*	2-4	1-2
Hawthorn	2-3	1-1.5
Hazel	2	1
Hickory*	2-5	1-2
Honeysuckle	3-4	1-1.5
Hornbeam, American*	2-5	1-2
Kudzu	4	2
Locust, black*	2-4	1-2
Madrone resprouts*	-	1-2
Manzanita*	2-5	1-2
Maple, red	2-4	1-1.5
Maple, sugar	-	1-1.5
Monkey flower*	2-4	1-2
Oak, black, white*	2-4	1-2
Oak, post	3-4	1-1.5
Oak, northern, pin	2-4	1-1.5
Oak, scrub*	2-4	1-1.5
Oak, southern red	2-3	1-1.5
Peppertree, Brazilian (Florida holly)*	2-5	1-2
Persimmon*	2-5	1-2
Pine	2-5	1-2
Poison ivy	4-5	2
Poison oak	4-5	2
Poplar, yellow*	2-5	1-2
Redbud, eastern	2-5	1-2
Rose, multiflora	2	1
Russian olive*	2-5	1-2
Sage, black	2-4	1
Sage, white*	2-4	1-2
Sage brush, California	2-4	1
Salmonberry	2	1
Saltcedar*	2-5	1-2
Sassafras*	2-5	1-2
Sourwood*	2-5	1-2
Sumac, laurel, poison, smooth, sugarbush, winged*	2-4	1-2
Sweetgum	2-3	1-1.5
Swordfern*	2-5	1-2
Tallowtree, Chinese	-	1
Tan oak resprouts*	-	2
Thimbleberry	2	1
Tobacco, tree*	2-4	1-2
Toyon*	-	2
Trumpet creeper	2-3	1-1.5
Vine maple*	2-5	1-2
Virginia creeper	2-5	1-2
Waxmyrtle, southern*	2-5	1-2
Willow	3	1
Yerba Santa*	-	2

9.0 CONDITION OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully and completely. It is impossible to eliminate all risks inherently associated with the use of this product. To the extent consistent with applicable law, Buyer and/or User assume all risks of ineffectiveness or other unintended consequences or damages that may result from conditions outside or beyond the control of LESCO, Inc. including but not limited to, such factors as manner of use or application, weather or weather conditions outside the range considered normal at the application site or for the time period in which the product is applied, the presence of other materials, incompatible products, or other influencing factors which are beyond the control of LESCO, Inc. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and/or User, and Buyer and/or User agrees to hold LESCO, Inc. harmless for any claims relating to such factors.

LESCO, Inc. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with the Directions for Use under normal use conditions. To the extent consistent with applicable law, this warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of LESCO, Inc. and Buyer and/or User assume the risk of any such use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, LESCO, INC. MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE BUYER AND/OR USER AND THE EXCLUSIVE LIABILITY OF LESCO, INC. FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF LESCO, INC., REPLACEMENT OF THE PRODUCT, OR IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY, TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL LESCO, INC., BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

LESCO, Inc. offers this product, and Buyer and/or User accepts it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of LESCO, Inc.

LESCO and Prosecutor are registered trademarks and the sweeping design is a trademark of LESCO Technologies, LLC.

All trademarks are the property of their respective companies.

This product is protected by U.S. Patent Nos. 5,683,958; 5,703,015; 6,063,733; 6,121,199; 6,121,200. No license granted under any non-U.S. patent(s).

EPA Reg. No. 524-536-10404

#069289 2.5 Gal.
#069290 2 x 2.5 Gal.
#069291 30 Gal.

Distributed by:
LESCO, INC.
1385 East 36th Street
Cleveland, OH 44114-4114 U.S.A.

©2018

(092809)

7.125"

GROUP 9 HERBICIDE

OPEN HERE



LESCO
PROSECUTOR
Non-Selective Herbicide

Complete Directions for Use

The complete broad-spectrum postemergence herbicide for industrial, turf and ornamental weed control.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION IS LIKELY TO RESULT.




<p>ACTIVE INGREDIENT: *Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt..... 41.0% OTHER INGREDIENTS:..... 59.0% 100.0%</p> <p>*Contains 480 grams per liter or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per liter or 3 pounds per U.S. gallon of the acid, glyphosate. Read the entire label before using this product.</p> <p>Keep out of reach of children. CAUTION! See inside for additional Precautions</p>	<p>FIRST AID</p> <p>IF IN EYES • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or physician for treatment advice.</p> <p>• Have the product container or label with you when calling a poison control center or physician, or going for treatment. • This product is identified as LESCO® Prosecutor® PRO Non-Selective Herbicide, EPA Reg. No. 524-536-10404. • In case of an emergency involving this product, or for medical assistance, call collect, day or night, (314) 694-4000.</p>	<p>Read the entire label before using this product. Use only according to label instructions. Read the "CONDITION OF SALE AND LIMITATION OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.</p> <p>THIS IS AN END-USE PRODUCT. LESCO, INC. DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION.</p> <p>EPA Reg. No. 524-536-10404 2018-JI</p> <p>Distributed by: LESCO, INC. 1385 East 36th Street Cleveland, OH 44114-4114 U.S.A. ©2018 (092809)</p>
---	---	--

6.875"

7.125"

Total number of pages MUST be divisible by four (4).
Due to production requirements, blank pages may be added to the end of your booklet.
A 70 lb. cover will be used on all books over 20 pages.

SPEC 99341-1 Dieline PPN 40113S6-127

	Description: 2.5G New Style BOOKLET ONLY r1		NOTES		LEGEND	
	Supplied for: Monsanto Ag	File No.: T01218	Measurements are in inches.	 Copy Image Area  Cut/Fold Lines		
	Finished Size: 7.125" (W) x 6.875" (H)	Supercedes: N/A	EcoSlim			
	Date: 6 / 1 / 17	Supplied By: CCL Label Memphis				
Application: Illustrator CS6	Prepared By: BM					

Not all products listed on this label are registered for use in California. Check the registration status of each product in California before using.

CONTENTS
1.0 INGREDIENTS
2.0 PRECAUTIONARY STATEMENTS
2.1 Hazards to Humans and Domestic Animals
2.2 Environmental Hazards
2.3 Physical or Chemical Hazards
3.0 STORAGE AND DISPOSAL
4.0 PRODUCT INFORMATION
4.1 Weed Resistance Management
4.2 Management of Glyphosate-Resistant Weed Biotypes
5.0 MIXING
5.1 Mixing with Water
5.2 Surfactant
5.3 Tank Mixing Procedure
5.4 Mixing for Hand-Held Sprayers
5.5 Colorants or Dyes
6.0 APPLICATION EQUIPMENT AND TECHNIQUES
6.1 Aerial Equipment
6.2 Ground Broadcast Equipment
6.3 Hand-Held and High-Volume Equipment
6.4 Selective Equipment
6.5 Injection Systems
6.6 CDA Equipment
7.0 SITE AND USE INSTRUCTIONS
7.1 Cut Stumps
7.2 Non-crop Areas and Industrial Sites
7.3 Habitat Management
7.4 Injection and Frill (Woody Brush and Trees)
7.5 Ornamentals and Plant Nurseries, Christmas Trees
7.6 Parks, Recreational and Residential Areas
7.7 Railroads
7.8 Roadside
8.0 WEEDS CONTROLLED
8.1 Annual Weeds
8.2 Perennial Weeds
8.3 Woody Brush and Trees
9.0 CONDITION OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

1.0 INGREDIENTS
ACTIVE INGREDIENT:
*Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt 41.0%
OTHER INGREDIENTS: 59.0%
100.0%

*Contains 480 grams per liter or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per liter or 3 pounds per U.S. gallon of the acid, glyphosate. This product is protected by U.S. Patent Nos. 5,683,958; 5,703,015; 6,063,733; 6,121,199; 6,121,200. No license granted under any non-U.S. patent(s).

FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL YOUR NEAREST LESCO, INC. REPRESENTATIVE.

2.0 PRECAUTIONARY STATEMENTS

2.1 Hazards to Humans and Domestic Animals

Keep out of reach of children.

CAUTION!

CAUSES MODERATE EYE IRRITATION. Avoid contact with eyes or clothing.

FIRST AID
IF IN EYES:
• Hold eye open and rinse slowly and gently with water for 15-20 minutes.
• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
• Call a poison control center or physician for treatment advice.
• Have the product container or label with you when calling a poison control center or physician, or going for treatment.
• This product is identified as LESCO® Prosector® PRO Non-Selective Herbicide, EPA Reg. No. 524-536-10404.
• In case of an emergency involving this product, or for medical assistance, call collect, day or night, (314) 694-4000.

DOMESTIC ANIMALS: This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear: long-sleeved shirt and long pants, shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining Personal Protective Equipment (PPE). If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4)-(6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations
Users should:
• Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
• Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

2.2 Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

2.3 Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about Personal Protective Equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is: coveralls, chemical resistant gloves, such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber, and shoes plus socks.

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard (40 CFR Part 170) for agricultural pesticides. The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried to prevent transfer of this product onto desirable vegetation.

3.0 STORAGE AND DISPOSAL

Proper pesticide storage and disposal are essential to protect against exposure to people and the environment due to leaks and spills, excess product or waste and vandalism. Do not allow this product to contaminate water, foodstuffs, feed or seed by storage or disposal.

PESTICIDE STORAGE: Store pesticides away from food, pet food, feed, seed, fertilizers, and veterinary supplies. Keep container closed to prevent spills and contamination.

PESTICIDE DISPOSAL: To avoid wastes, use all material in this container, including rinsate, by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program. Such programs are often run by state or local governments or by industry. All disposal must be in accordance with applicable Federal, state and local regulations and procedures.

CONTAINER HANDLING AND DISPOSAL: See container label for container handling and disposal instructions and refilling limitations.

4.0 PRODUCT INFORMATION

Product Description: This product is a postemergence, systemic herbicide, with no soil residual activity. It gives broad-spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid containing surfactant.

Time to Symptoms: This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

Mode of Action in Plants: The active ingredient in this product inhibits an enzyme found only in plants that is essential to formation of specific amino acids.

Cultural Considerations: Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed or cut, and have not been allowed to regrow to the specified stage for treatment.

Rainfastness: Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate control.

No Soil Activity: Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Plants arising from unattached underground rhizomes or root stocks of perennials that have not yet emerged at the time of application will not be affected by this herbicide and will continue to grow.

Tank Mixing: This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive label directions for each product in the mixture.

In the extent consistent with applicable law, buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly listed in this label. Mixing this product with herbicides or other materials not identified on this label may result in reduced performance.

Maximum Application Rates: The maximum application or use rates stated throughout this label are given in units of volume (fluid ounces or quarts) of this product per acre. However, the maximum allowed application rates apply to this product combined with the use of any and all other herbicides containing the active ingredient glyphosate, whether applied separately or as tank mixtures, on a basis of total pounds of glyphosate (acid equivalents) per acre. If more than one glyphosate-containing product is applied to the same site within the same year, you must ensure that the total use of glyphosate (pounds acid equivalents) does not exceed the maximum allowed.

The combined total of all treatments must not exceed 10.6 quarts of this product per acre per year.

ATTENTION

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

4.1 Weed Resistance Management

GROUP 9 HERBICIDE

Glyphosate, the active ingredient in this product, is a Group 9 herbicide based on the mode of action classification system of the Weed Science Society of America. Any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group or using other cultural or mechanical practices.

To minimize the occurrence of glyphosate-resistant biotypes observe the following weed management practices:

- Scout your application site before and after herbicides application.
Control weeds early when they are relatively small.

Incorporate other herbicides and cultural or mechanical practices as part of your weed control system where appropriate.

Use the application rate for the most difficult to control weed on the site. Avoid tank mixtures with other herbicides that reduce the efficacy of this product (through antagonism) or with ones that encourage application rates of this product below those specified on this label.

Clean equipment before moving from site to site to minimize spread of weed seed.

Control weed escapes and prevent weeds from setting seeds.

Use new commercial seed as free of weed seed as possible.

Report any incidence of repeated non-performance of this product on a particular weed to your LESCO, Inc. representative, local retailer, or county extension agent.

4.2 Management of Glyphosate-Resistant Weed Biotypes

NOTE: Appropriate testing is critical in order to confirm weed resistance to glyphosate. Contact your LESCO, Inc. representative to determine if resistance in any particular weed biotype has been confirmed in your area. Directions for the control of biotypes confirmed to be resistant to glyphosate are made available on separately published supplemental labeling or Fact Sheets for this product and may be obtained from your local retailer or LESCO, Inc. representative.

Since the occurrence of new glyphosate-resistant weeds cannot be determined until after product use and scientific confirmation, LESCO, Inc. is not responsible for any losses that may result from the failure of this product to control glyphosate-resistant weed biotypes.

The following good weed management practices can reduce the spread of confirmed glyphosate-resistant biotypes:

- If a naturally occurring resistant biotype is present at your site, this product may be tank-mixed or applied sequentially with an appropriately labeled herbicide with a different mode of action to achieve control.
Cultural and mechanical control practices may also be used as appropriate.
Scout treated sites after herbicide application and control escapes of resistant biotypes before they set seed.
Thoroughly clean equipment before leaving sites known to contain resistant biotypes.

5.0 MIXING

Clean sprayer parts immediately after using this product by thoroughly flushing with water.

NOTE: REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS VISIBLY MUDDY WATER OR WATER FROM PONDS AND DITCHES THAT IS NOT CLEAR.

5.1 Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the required amount of this product near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

5.2 Surfactant

Nonionic surfactants which are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactant, use 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

5.3 Tank Mixing Procedure

When tank mixing, read and carefully observe label directions, cautionary statements and all information on the labels of all products used. Add the tank-mix product to the tank as directed by the label. Maintain agitation and add the required amount of this product.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation may be required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh.

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

Refer to the "Tank Mixing" section of "PRODUCT INFORMATION" for additional precautions.

5.4 Mixing for Hand-held Sprayers

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

Spray Solution table with columns for Desired Volume and Amount of LESCO Prosector PRO Non-Selective Herbicide (1/2%, 1%, 1-1/2%, 2%, 5%, 10%).

For use in backpack, knapsack or pump-up sprayers, consider mixing the appropriate amount of this product with water in a larger container and then fill the sprayer from the larger container.

5.5 Colorants or Dyes

Colorants or marking dyes may be added to spray solutions of this product; however, they may reduce product performance, especially at lower rates on dilution. Use colorants or dyes according to the manufacturer's directions.

6.0 APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system.

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

SPRAY DRIFT MANAGEMENT

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

AERIAL SPRAY DRIFT MANAGEMENT

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications or to public health uses.

- The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
Nozzles must always point backward parallel with the airstream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

Total number of pages MUST be divisible by four (4).
Due to production requirements, blank pages may be added to the end of your booklet.
A 70 lb. cover will be used on all books over 20 pages.

Product information box including Description: 2.5G New Style BOOKLET ONLY r1, Supplied for: Monsanto Ag, File No.: T01218, Finished Size: 7.125" (W) x 6.875" (H), Date: 6/1/17, Application: Illustrator CS6, and NOTES and LEGEND sections.

Importance of droplet size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see the "Wind", "Temperature and Humidity", and "Temperature Inversions" sections of this label).

Controlling droplet size

- Volume: Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
Pressure: Use the lower spray pressures listed for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration.
Number of nozzles: Use the minimum number of nozzles that provide uniform coverage.
Nozzle orientation: Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations.
Nozzle type: Use a nozzle type that is designed for the intended application.

Boom Length: For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height: Applications must not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety.

Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind.

Wind

Drift potential is lowest between wind speeds of 2 to 10 miles per hour. However, many factors, including droplet size and equipment type determine drift potential at any given speed.

Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation.

Temperature Inversions

Applications must not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud.

Sensitive areas

The pesticide must only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal.

6.1 Aerial Equipment

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

AVOID DRIFT. DO NOT APPLY DURING LOW-LEVEL INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT IS LIKELY TO CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED.

Use the specified rates of this herbicide in 3 to 25 gallons of water per acre. Coarse sprays are less likely to drift, therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets.

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

Ensure uniform application—to avoid streaked, uneven or overlapped application, use appropriate marking devices.

PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART.

6.2 Ground Broadcast Equipment

Use the labeled rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified. As density of weeds increases, spray volume should be increased within the specified range to ensure complete coverage.

6.3 Hand-Held and High-Volume Equipment

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete.

For control of weeds listed in the "Annual Weeds" section of "WEEDS CONTROLLED", apply a 0.5 percent solution of this product to weeds less than 6 inches in height or runner length.

For best results, use a 2 percent solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

For low volume directed spray applications, use a 5 to 10 percent solution of this product for control or partial control of annual weeds, perennial weeds, or woody brush and trees.

6.4 Selective Equipment

This product may be applied through recirculating spray systems, shielded applicators, hooded sprayers, wiper applicators or sponge bars after dilution and thorough mixing with water to listed weeds growing in any non-crop site specified on this label.

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

A shielded or hooded applicator directs the herbicide solution onto weeds, while shielding desirable vegetation from the herbicide.

A wiper or sponge applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution.

AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION AS SERIOUS INJURY OR DEATH IS LIKELY TO OCCUR.

Applifiers used above desired vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam or splatter of the herbicide solution settling on desirable vegetation is likely to result in discoloration, stunting or destruction.

Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected.

Shielded and hooded applicators: Use nozzles that provide uniform coverage within the treated area.

Wiper applicators and sponge bars: Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation.

Apply to weeds listed in the "Annual Weeds" section of "WEEDS CONTROLLED", apply a 0.5 percent solution of this product to weeds less than 6 inches in height or runner length.

For best results, use a 2 percent solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

For low volume directed spray applications, use a 5 to 10 percent solution of this product for control or partial control of annual weeds, perennial weeds, or woody brush and trees.

When applied as directed, this product CONTROLS the following weeds: Corn, volunteer; Panicum, Texas; Rye, common; Shattercane.

When applied as directed, this product SUPPRESSES the following weeds: Beggarweed, Florida; Bermudagrass; Dogbane, hemp; Dogfennel; Guineagrass; Johnsongrass; Milkweed; Nightshade, silverleaf; Pigweed, redroot.

6.5 Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream.

6.6 CDA Equipment

The rate of this product applied per acre by controlled droplet application (CDA) equipment must not be less than the amount specified in this label when applied by conventional broadcast equipment.

CDA equipment produces a spray pattern which is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation.

7.0 SITE AND USE INSTRUCTIONS

This product may be used in non-crop areas such as airports, apartment complexes, commercial sites, ditch banks, driveways, dry ditches, canals, fencerows, golf courses, greenhouses, industrial sites, landscape areas, lumber yards, manufacturing sites, municipal sites, natural areas, office complexes, ornamentals, parks, parking areas, pastures, petroleum tank farms and pumping installations.

This product may also be used in non-food crops sites such as Christmas tree farms, plant nurseries, sod or turf seed farms.

Unless otherwise specified, applications may be made to control any weeds listed in the annual, perennial and woody brush tables.

7.1 Cut Stumps

Cut stump treatments may be made on any site listed on this label. This product will control many types of woody brush and tree species, some of which are listed below.

Table with 2 columns: Weed Name, Control Method. Includes Alder, Eucalyptus, Madrone, Oak, Reed, giant, Saltcedar, Sweetgum, Tan oak, Willow.

DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP.

7.2 Non-crop Areas and Industrial Sites

Use in areas such as airports, apartment complexes, ditch banks, dry ditches, dry canals, fencerows, golf courses, industrial sites, lumber yards, manufacturing sites, office complexes, parks, parking areas, petroleum tank farms and pumping installations.

Weed control, Trim-and-edge and Bare ground

This product may be used in non-crop areas. It may be applied with any application equipment described in this label.

shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

This product may be tank-mixed with the following products. Refer to these products' labels for approved non-crop sites and application rates.

Table with 2 columns: Product Name, Application Rate. Includes ARSENAL, BANVEL, BARRICADE 65 WG, DIURON, ENDURANCE, ESCORT, GARLON 3A, GARLON 4, KARMEX DF, KROVAR I DF, MANAGE, OUST, PENDULUM 3.3 EC, PENDULUM WDG, PLATEAU, PRINCEP DF, PRINCEP LIQUID, RONSTAR 50WP, SAHARA, SIMAZINE, SURFLAN, TELAR, VANQUISH, 2,4-D.

This product plus dicamba tank mixtures may not be applied by air in California.

When applied as a tank mixture for bare ground, this product provides control of the emerged annual weeds and control or partial control of emerged perennial weeds, woody brush and trees.

For control or partial control of the following perennial weeds, apply 1 to 2 quarts of this product plus 2 to 4 ounces of Oust per acre.

Table with 2 columns: Weed Name, Control Method. Includes Bahiagrass, Bermudagrass, Broomsedge, Dallisgrass, Dock, curly, Dogfennel, Fescue, tall, Johnsongrass, Poojoe, Quackgrass, Vaseygrass, Vervain, blue.

Chemical mowing - Perennials

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass or quackgrass covers.

Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

Chemical mowing - Annuals

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 4 to 5 fluid ounces of this product in 10 to 40 gallons of spray solution per acre.

Dormant turfgrass

This product may be used to control or suppress many winter annual weeds and tall fescue for effective release of dormant bermudagrass and bahiagrass turf.

Apply 8 to 64 fluid ounces of this product per acre. Apply the labeled rates in 10 to 40 gallons of water per acre. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

Treatments in excess of 16 fluid ounces per acre may result in injury or delayed green-up in highly maintained areas, such as golf courses and lawns.

Actively growing bermudagrass

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. DO NOT apply more than 16 fluid ounces of this product per acre in highly maintained turfgrass areas.

Turfgrass renovation, seed, or sod production

This product controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod.

Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow translocation into underground plant parts.

Desirable turfgrasses may be planted following the above procedures. Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass.

7.3 Habitat Management

Habitat restoration and management

This product may be used to control exotic and other undesirable vegetation in habitat management and natural areas, including rangeland and wildlife refuges.

Wildlife food plots

This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area.

7.4 Injection and Frill (Woody Brush and Trees)

This product may be used to control woody brush and trees by injection or frill applications. Apply this product using suitable equipment which must penetrate into the living tissue.

Table with 2 columns: Control, Partial Control. Includes Oak, Poplar, Sweetgum, Sycamore, Black gum, Dogwood, Hickory, Maple, red.

6.5"

6.875"

7.125"

7.125"

Total number of pages MUST be divisible by four (4).

Due to production requirements, blank pages may be added to the end of your booklet.

A 70 lb. cover will be used on all books over 20 pages.

SPEC 99341-1 Dieline PPN 4011356-127

Table with 3 columns: Description, File No., Measurements. Includes CCL logo, Description: 2.5G New Style BOOKLET ONLY r1, File No.: T01218, Measurements are in inches. EcoSlim.

7.5 Ornamentals and Plant Nurseries, Christmas Trees

Post-directed, Trim-and-edge

This product may be used as a post-directed spray around established woody ornamental species such as arborvitae, azalea, boxwood, crabapple, euonymus, fir, Douglas fir, jujube, hollies, lilac, magnolia, maple, oak, privet, pine, spruce and yew. This product may also be used to trim and edge around trees, buildings, sidewalks and roads, potted plants and other objects in a nursery setting.

Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material. THIS PRODUCT IS NOT FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

Site preparation

This product may be used prior to planting any ornamental, nursery or Christmas tree species.

Greenhouse/Shadehouse

This product may be used to control weeds growing in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

7.6 Parks, Recreational and Residential Areas

This product may be used in parks, recreational and residential areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around trees, fences, paths, around buildings, sidewalks, and other objects in these areas. This product may be used for spot treatment of unwanted vegetation. This product may be used to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

All of the instructions in the "Non-Crop Areas and Industrial Sites" section apply to park and recreational areas.

7.7 Railroads

All of the instructions in the "Non-Crop Areas and Industrial Sites" section apply to railroads.

Bare ground, Ballast and Shoulders, Crossings, and Spot treatment

This product may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of this product may be used, as weeds emerge, to maintain bare ground. This product may be used to control tall-growing weeds to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way. For crossing applications, up to 80 gallons of spray solution per acre may be used. This product may be tank mixed with the following products for ballast, shoulder, spot, bare ground and crossing treatments:

Table with 4 columns: Product Name, Application Rate, and other details for ballast, shoulder, spot, bare ground and crossing treatments.

Brush control

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 4 to 10 quarts of this product per acre as a broadcast spray, using boom-type or boomless nozzles. Up to 80 gallons of spray solution per acre may be used. Apply a 3/4 to 2 percent solution of this product when using high-volume spray-to-wet applications. Apply a 5 to 10 percent solution of this product when using low volume directed sprays for spot treatment. This product may be mixed with the following products for enhanced control of woody brush and trees:

Table with 4 columns: Product Name, Application Rate, and other details for enhanced control of woody brush and trees.

Bermudagrass release

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 1 to 3 pints of this product in up to 80 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Table with 2 columns: Weed Species, Application Rate.

This product may be tank-mixed with Oust. If tank-mixed, use no more than 1 to 3 pints of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Table with 2 columns: Weed Species, Application Rate.

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Avoid repeat applications in the same season since severe injury may occur.

7.8 Roadsides

All of the instructions in the "Non-Crop Areas and Industrial Sites" section apply to roadsides.

Shoulder treatments

This product may be used on road shoulders. It may be applied with boom sprayers, shielded boom sprayers, high-volume off-center nozzles, hand-held equipment, and similar equipment.

Guardrails and other obstacles to mowing

This product may be used to control weeds growing under guardrails and around signposts and other objects along the roadside.

Spot treatment

This product may be used as a spot treatment to control unwanted vegetation growing along roadsides.

Tank mixtures

This product may be tank-mixed with the following products for shoulder, guardrail, spot and bare ground treatments:

Table with 4 columns: Product Name, Application Rate, and other details for shoulder, guardrail, spot and bare ground treatments.

See the "Non-Crop Areas and Industrial Sites" section of this label for general instructions for tank mixing.

Release of Bermudagrass or Bahiagrass

Dormant applications

This product may be used to control or partially control many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring greenup. This product may also be tank-mixed with Outrider herbicide or Oust for residual control. Tank mixtures of this product with Oust may delay greenup.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is at or beyond the 4- to 6-leaf stage.

Apply 8 to 64 fluid ounces of this product in a tank mixture with 3/4 to 1 1/3 ounces Outrider herbicide per acre. Read and follow all label directions for Outrider herbicide.

Apply 8 to 64 fluid ounces of this product per acre alone or in a tank mixture with 1/4 to 1 ounce per acre of Oust. Apply the labeled rates in 10 to 40 gallons of water per acre. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in greenup and minimize injury, add no more than 1 ounce of Oust per acre on bermudagrass and no more than 0.5 ounce of Oust per acre on bahiagrass and avoid treatments when these grasses are in a semi-dormant condition.

Actively growing bermudagrass

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 1 to 3 pints of this product in 10 to 40 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Table with 2 columns: Weed Species, Application Rate.

This product may be tank-mixed with Outrider herbicide for control of partial control of Johnsongrass and other weeds listed in the Outrider herbicide label. Use 8 to 32 fluid ounces of this product with 3/4 to 1-1/3 ounces of Outrider herbicide. Use the higher rates of both products for control of perennial weeds or annual weeds greater than 6 inches in height.

This product may be tank-mixed with Oust. If tank-mixed, use no more than 1 to 2 pints of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Table with 2 columns: Weed Species, Application Rate.

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Avoid repeat applications of the tank mix in the same season since severe injury may occur.

Actively growing bahiagrass

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid ounces of this product in 10 to 40 gallons of water per acre. Apply 1 to 2 weeks after full greenup or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 4 fluid ounces of this product per acre, followed by an application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

This product may be used for control or partial control of Johnsongrass and other weeds listed on the Outrider herbicide label in actively growing bahiagrass. Apply 1 1/2 to 4 3/4 fluid ounces of this product with 3/4 to 1 1/3 ounces of Outrider herbicide per acre. Use the higher rates for control of perennial weeds or annual weeds greater than 6 inches in height. Use only on well established bahiagrass.

A tank mixture of this product plus Oust may be used. Apply 6 fluid ounces of this product plus 0.25 ounce of Oust per acre 1 to 2 weeks following an initial spring mowing. Make only one application per year.

8.0 WEEDS CONTROLLED

Always use the higher rate of this product per acre within the specified range when weed growth is heavy or dense or weeds are growing in an undisturbed (noncultivated) area.

Reduced results may occur when treating weeds heavily covered with dust. For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

Refer to the following label sections for specific rates for the control of annual and perennial weeds and woody brush and trees. For difficult to control perennial weeds and woody brush and trees, where plants are growing under stressed conditions, or where infestations are dense, this product may be used at 5 to 10 quarts per acre for enhanced results.

8.1 Annual Weeds

Use 1 quart per acre if weeds are less than 6 inches in height or runner length and 1.5 quarts to 4 quarts per acre if weeds are over 6 inches in height or runner length or when weeds are growing under stressed conditions.

For spray-to-wet applications, apply a 0.5 percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or for smaller weeds growing under stressed conditions, use a 1 to 2 percent solution. Use the higher rate for tough-to-control species or for weeds over 24 inches tall.

WEED SPECIES

Table with 3 columns: Weed Species, Rate (QT/A), Hand-Held % Solution.

Table with 2 columns: Weed Species, Application Rate.

*When using field broadcast equipment (aerial applications or boom sprayers using flat-fan nozzles) these species will be controlled or partially controlled using 1 pint of this product per acre. Applications must be made using 3 to 10 gallons of carrier volume per acre. Use nozzles that ensure thorough coverage of foliage and treat when weeds are in an early growth stage.

8.2 Perennial Weeds

Best results are obtained when perennial weeds are treated after they reach the reproductive stage of growth (seedhead initiation in grasses and bud formation in broadleaves). For non-flowering plants, best results are obtained when the plants reach a mature stage of growth. In many situations, treatments are required prior to these growth stages. Under these conditions, use the higher application rate within the specified range.

Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment. When using hand-held equipment for low volume directed spot treatments, apply a 5 to 10 percent solution of this product.

Allow 7 or more days after application before tillage.

Table with 3 columns: Weed Species, Rate (QT/A), Hand-Held % Solution.

Table with 3 columns: Weed Species, Rate (QT/A), % Solution.

*Partial control

8.3 Woody Brush and Trees

Apply this product after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment. When using hand-held equipment for low volume directed-spray spot treatments, apply a 5 to 10 percent solution of this product.

Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

Total number of pages MUST be divisible by four (4).
Due to production requirements, blank pages may be added to the end of your booklet.
A 70 lb. cover will be used on all books over 20 pages.

SPEC 99341-1 Dieline PPN 4011356-127

Table with 4 columns: Description, Supplied for, Finished Size, Date, Application, File No., Supercedes, Supplied By, Prepared By, NOTES, LEGEND.

LESCO, Inc.
Safety Data Sheet #4038
Commercial Product

1. PRODUCT AND COMPANY IDENTIFICATION

1.1. Product identifier

LESCO® PROSECUTOR® PRO Herbicide

1.1.1. Chemical name

Not applicable.

1.1.2. Synonyms

None.

1.1.3. EPA Reg. No.

524-536-10404

1.2. Product use

Herbicide

1.3. Company

LESCO, Inc., 1385 East 36th Street, Cleveland, OH, 44114

Telephone: 800-347-4272

Website: www.lesco.com

1.4. Emergency numbers

FOR CHEMICAL EMERGENCY, SPILL LEAK, FIRE, EXPOSURE, OR ACCIDENT Call CHEMTREC - Day or Night: 1-800-424-9300 toll free in the continental U.S., Puerto Rico, Canada, or Virgin Islands. For calls originating elsewhere: 703-527-3887 (collect calls accepted).
FOR MEDICAL EMERGENCY - Day or Night: +1 (314) 694-4000 (collect calls accepted).

2. HAZARDS IDENTIFICATION

2.1. Classification

OSHA Hazard Communication Standard, 29 CFR 1910.1200 (2012)

Acute toxicity, inhalation - Category 4

2.2. Label elements

2.2.1. Signal word

WARNING!

2.2.2. Hazard pictogram/pictograms



2.2.3. Hazard statement/statements

Harmful if inhaled.

2.2.4. Precautionary statement/statements

Do not breathe mist/vapours/spray.

Use only outdoors or in a well-ventilated area.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

2.3. Appearance and odour (colour/form/odour)

Amber /Liquid / Sweet

2.4. OSHA Status

This product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Refer to section 11 for toxicological and section 12 for environmental information.

3. COMPOSITION/INFORMATION ON INGREDIENTS**Active ingredient**

Isopropylamine salt of N-(phosphonomethyl)glycine; {Isopropylamine salt of glyphosate }

Composition

COMPONENT	CAS No.	% by weight (approximate)
Isopropylamine salt of glyphosate	38641-94-0	41
Other ingredients		59

Trade secret composition.

4. FIRST AID MEASURES

Use personal protection recommended in section 8.

4.1. Description of first aid measures

- 4.1.1. Eye contact:** If in eyes, hold eye open and rinse slowly and gently for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.
- 4.1.2. Skin contact:** Take off contaminated clothing, wristwatch, jewellery. Wash affected skin with plenty of water. Wash clothes and clean shoes before re-use.
- 4.1.3. Inhalation:** Remove to fresh air.
- 4.1.4. Ingestion:** Immediately offer water to drink. Do NOT induce vomiting unless directed by medical personnel. If symptoms occur, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

- 4.2.1. Eye contact, short term:** May cause temporary eye irritation.
- 4.2.2. Skin contact, short term:** Not expected to produce significant adverse effects when recommended use instructions are followed.
- 4.2.3. Inhalation, short term:** Not expected to produce significant adverse effects when recommended use instructions are followed.

4.3. Indication of any immediate medical attention and special treatment needed

- 4.3.1. Advice to doctors:** This product is not an inhibitor of cholinesterase.
- 4.3.2. Antidote:** Treatment with atropine and oximes is not indicated.

5. FIRE-FIGHTING MEASURES**5.1. Extinguishing media**

- 5.1.1. Recommended:** Water, foam, dry chemical, carbon dioxide (CO₂)

5.2. Special hazards**5.2.1. Unusual fire and explosion hazards**

Minimise use of water to prevent environmental contamination.
Environmental precautions: see section 6.

5.2.2. Hazardous products of combustionCarbon monoxide (CO), phosphorus oxides (P_xO_y), nitrogen oxides (NO_x)

5.3. Fire fighting equipment: Self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

5.4. Flash point
None.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions

Use personal protection recommended in section 8.

6.2. Environmental precautions

SMALL QUANTITIES:

Low environmental hazard.

LARGE QUANTITIES:

Minimize spread.

Keep out of drains, sewers, ditches and water ways.

Notify authorities.

6.3. Methods for cleaning up

SMALL QUANTITIES:

Flush spill area with water.

LARGE QUANTITIES:

Absorb in earth, sand or absorbent material.

Dig up heavily contaminated soil.

Collect in containers for disposal.

Refer to section 7 for types of containers.

Flush residues with small quantities of water.

Minimise use of water to prevent environmental contamination.

Refer to section 13 for disposal of spilled material.

Use handling recommendations in Section 7 and personal protection recommendations in Section 8.

7. HANDLING AND STORAGE

Good industrial practice in housekeeping and personal hygiene should be followed.

7.1. Precautions for safe handling

When using do not eat, drink or smoke. Wash hands thoroughly after handling or contact. Thoroughly clean equipment after use. Do not contaminate drains, sewers and water ways when disposing of equipment rinse water. Emptied containers retain vapour and product residue. Refer to section 13 of the safety data sheet for disposal of rinse water. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.

7.2. Conditions for safe storage

Minimum storage temperature: -15 °C

Maximum storage temperature: 50 °C

Compatible materials for storage: stainless steel, aluminium, fiberglass, plastic, glass lining

Incompatible materials for storage: galvanized steel, unlined mild steel, see section 10. Keep out of reach of children.

Keep away from food, drink and animal feed.

Keep only in the original container.

Partial crystallization may occur on prolonged storage below the minimum storage temperature.

If frozen, place in warm room and shake frequently to put back into solution.

Minimum shelf life: 5 years.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Airborne exposure limits

Components	Exposure Guidelines
Isopropylamine salt of glyphosate	No specific occupational exposure limit has been established.
Other ingredients	No specific occupational exposure limit has been established.

8.2. Engineering controls: No special requirement when used as recommended.

8.3. Recommendations for personal protective equipment

8.3.1. Eye protection: If there is significant potential for contact: Wear chemical goggles.

8.3.2. Skin protection: No special requirement when used as recommended. If repeated or prolonged contact: Wear chemical resistant gloves.

8.3.3. Respiratory protection: No special requirement when used as recommended.

When recommended, consult manufacturer of personal protective equipment for the appropriate type of equipment for a given application.

9. PHYSICAL AND CHEMICAL PROPERTIES

These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

Colour/colour range:	Amber
Odour:	Sweet
Form:	Liquid
Physical form changes (melting, boiling, etc.):	
Melting point:	Not applicable.
Boiling point:	No data.
Flash point:	None.
Explosive properties:	No explosive properties
Auto ignition temperature:	452 °C
Self-accelerating decomposition temperature (SADT):	No data.
Oxidizing properties:	No data.
Specific gravity:	1.169 @ 20 °C / 15.6 °C
Vapour pressure:	25 mmHg 24 °C
Vapour density:	Not applicable.
Evaporation rate:	No data.
Dynamic viscosity:	73.2 cP
Kinematic viscosity:	Not applicable.
Density:	1.17 g/cm ³ @ 20 °C
Solubility:	Water: Completely miscible.
pH:	4.4 - 5.0
Partition coefficient:	log Pow: < 0.00 (active ingredient)

10. STABILITY AND REACTIVITY

10.1. Reactivity

Reacts with galvanised steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.

10.2. Stability

Stable under normal conditions of handling and storage.

10.3. Possibility of hazardous reactions

Reacts with galvanised steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.

10.4. Incompatible materials

galvanised steel; unlined mild steel; see section 10.;
Compatible materials for storage: see section 7.2.

10.5. Hazardous decomposition

Thermal decomposition: Hazardous products of combustion: see section 5.

11. TOXICOLOGICAL INFORMATION

This section is intended for use by toxicologists and other health professionals.

Likely routes of exposure: Skin contact, eye contact

Potential health effects

Eye contact, short term: May cause temporary eye irritation.

Skin contact, short term: Not expected to produce significant adverse effects when recommended use instructions are followed.

Inhalation, short term: Not expected to produce significant adverse effects when recommended use instructions are followed.

Data obtained on similar products and on components are summarized below.

Similar formulation

Acute oral toxicity

Rat, LD50: 5,108 mg/kg body weight
Practically non-toxic.

Acute dermal toxicity

Rat, LD50 (limit test): > 5,000 mg/kg body weight
Practically non-toxic. No mortality.

Skin irritation

Rabbit, 6 animals, OECD 404 test:
Days to heal: 3
Primary Irritation Index (PII): 0.5/8.0
Essentially non irritating.

Eye irritation

Rabbit, 6 animals, OECD 405 test:
Days to heal: 3
Slight irritation.

Acute inhalation toxicity

Rat, LC50, 4 hours, aerosol: 2.9 mg/L
Other effects: weight loss, breathing difficulty
Practically non-toxic.

Skin sensitization

Guinea pig, 3-induction Buehler test:
Positive incidence: 0 %

N-(phosphonomethyl)glycine; {glyphosate acid}**Genotoxicity**

Not genotoxic.

Carcinogenicity

Not carcinogenic in rats or mice.

Reproductive/Developmental Toxicity

Developmental effects in rats and rabbits only in the presence of significant maternal toxicity.

Reproductive effects in rats only in the presence of significant maternal toxicity.

12. ECOLOGICAL INFORMATION

This section is intended for use by ecotoxicologists and other environmental specialists.

Data obtained on product and components are summarized below.

Aquatic toxicity, fish**Rainbow trout (*Oncorhynchus mykiss*):**

Acute toxicity, 96 hours, static, LC50: 5.4 mg/L

Moderately toxic.

Bluegill sunfish (*Lepomis macrochirus*):

Acute toxicity, 96 hours, static, LC50: 7.3 mg/L

Moderately toxic.

Aquatic toxicity, invertebrates**Water flea (*Daphnia magna*):**

Acute toxicity, 48 hours², static, EC50: 11 mg/L

Slightly toxic.

Avian toxicity**Mallard duck (*Anas platyrhynchos*):**

Dietary toxicity, 5 days, LC50: > 5,620 mg/kg diet

Practically non-toxic.

Bobwhite quail (*Colinus virginianus*):

Dietary toxicity, 5 days, LC50: > 5,620 mg/kg diet

Practically non-toxic.

Arthropod toxicity**Honey bee (*Apis mellifera*):**

Oral/contact, 48 hours, LD50: > 100 µg/bee

Practically non-toxic.

Soil organism toxicity, invertebrates**Earthworm (*Eisenia foetida*):**

Acute toxicity, 14 days, LC50: > 1,250 mg/kg soil

Practically non-toxic.

N-(phosphonomethyl)glycine; {glyphosate acid}**Bioaccumulation****Bluegill sunfish (*Lepomis macrochirus*):**

Whole fish: BCF: < 1

No significant bioaccumulation is expected.

Dissipation**Soil, field:**

Half life: 2 - 174 days

Koc: 884 - 60,000 L/kg

Adsorbs strongly to soil.

Water, aerobic:

Half life: < 7 days

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

13.1.1. Product

Keep out of drains, sewers, ditches and water ways. Recycle if appropriate facilities/equipment available. Burn in proper incinerator. Follow all local/regional/national/international regulations.

13.1.2. Container

See the individual container label for disposal information. Emptied containers retain vapour and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Empty packaging completely. Triple or pressure rinse empty containers. Do NOT contaminate water when disposing of rinse waters. Ensure packaging cannot be reused. Do NOT re-use containers. Store for collection by approved waste disposal service. Recycle if appropriate facilities/equipment available. Follow all local/regional/national/international regulations.

Use handling recommendations in Section 7 and personal protection recommendations in Section 8.

14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

14.1. US Dept. of Transportation (DOT) Hazardous Materials Regulations (49 CFR Parts 105-180)

Proper Shipping Name (Technical Name if required):	Not regulated for domestic ground transportation.
---	---

14.2. IMDG Code

Proper Shipping Name (Technical Name if required):	Not regulated for transport under IMO Regulations
---	---

14.3. IATA/ICAO

Proper Shipping Name (Technical Name if required):	Not regulated for transport under IATA/ICAO Regulations
---	---

15. REGULATORY INFORMATION

15.1. Environmental Protection Agency

15.1.1. TSCA Inventory

All components are on the US EPA's TSCA Inventory

15.1.2. SARA Title III Rules

Section 311/312 Hazard Categories: Immediate
Section 302 Extremely Hazardous Substances: Not applicable.
Section 313 Toxic Chemical(s): Not applicable.

15.1.3. CERCLA Reportable quantity

Not applicable.

15.1.4. Federal Insecticide, Fungicide, Rodenticide Act (FIFRA)

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION!
CAUSES EYE IRRITATION

- Acute oral toxicity: FIFRA category IV.
- Acute dermal toxicity: FIFRA category IV.
- Acute inhalation toxicity: FIFRA category IV.
- Skin irritation: FIFRA category IV.
- Eye irritation: FIFRA category III.

16. OTHER INFORMATION

The information given here is not necessarily exhaustive but is representative of relevant, reliable data. Follow all local/regional/national/international regulations. Please consult supplier if further information is needed. In this document the British spelling was applied.

	Health	Flammability	Instability	Additional Markings
NFPA	2	1	1	

0 = Minimal hazard, 1 = Slight hazard, 2 = Moderate hazard, 3 = Severe hazard, 4 = Extreme hazard

Full denomination of most frequently used acronyms. BCF (Bioconcentration Factor), BOD (Biochemical Oxygen Demand), COD (Chemical Oxygen Demand), EC50 (50% effect concentration), ED50 (50% effect dose), I.M. (intramuscular), I.P. (intraperitoneal), I.V. (intravenous), Koc (Soil adsorption coefficient), LC50 (50% lethality concentration), LD50 (50% lethality dose), LDLo (Lower limit of lethal dosage), LEL (Lower Explosion Limit), LOAEC (Lowest Observed Adverse Effect Concentration), LOAEL (Lowest Observed Adverse Effect Level), LOEC (Lowest Observed Effect Concentration), LOEL (Lowest Observed Effect Level), MEL (Maximum Exposure limit), MTD (Maximum Tolerated Dose), NOAEC (No Observed Adverse Effect Concentration), NOAEL (No Observed Adverse Effect Level), NOEC (No Observed Effect Concentration), NOEL (No Observed Effect Level), OEL (Occupational Exposure Limit), PEL (Permissible Exposure Limit), PII (Primary Irritation Index), Pow (Partition coefficient n-octanol/water), S.C. (subcutaneous), STEL (Short-Term Exposure Limit), TLV-C (Threshold Limit Value-Ceiling), TLV-TWA (Threshold Limit Value - Time Weighted Average), UEL (Upper Explosion Limit)

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, LESCO, Inc. or any of its subsidiaries makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for the purposes prior to use. In no event will LESCO, Inc. or any of its subsidiaries be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR TO THE

PRODUCT TO WHICH INFORMATION REFERS.

00000008913

End of document

GROUPS

3 & 9

HERBICIDE

ProDeuce®

Pre-Emergent And Post-Emergent Weed Control For Many Broadleaf Weeds And Grasses

ACTIVE INGREDIENTS:

Glyphosate, N-(phosphonomethyl) glycine, in the form of its isopropylamine salt*	40.15%
Prodiamine**	7.51%

OTHER INGREDIENTS:	52.34%
---------------------------------	--------

TOTAL:	100.0%
---------------------	--------

*Contains 480 grams per liter or 4.0 pounds per U.S. gallon. Equivalent to 356 grams per liter or 2.97 pounds per U.S. gallon.

**Equivalent to 90 grams per liter or 0.75 pounds per U.S. gallon (CAS # 29091-21-1).

KEEP OUT OF REACH OF CHILDREN
CAUTION / PRECAUCIÓN

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.

(If you do not understand the label, find someone to explain it to you in detail.)

SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300.
For Medical Emergencies Only, Call (877) 325-1840.

EPA REG. NO. 228-509

Manufactured for
Nufarm Americas Inc.
11901 S. Austin Avenue
Alsip, IL 60803



Nufarm

Grow a better tomorrow.

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION / PRECAUCIÓN**

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear protective eyewear. Wash thoroughly with soap and water after handling.

FIRST AID

IF IN EYES

- Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.

ENVIRONMENTAL HAZARDS

This product has low solubility in water. At the limits of solubility this product is not toxic to fish. However, at concentrations about the level of water solubility it may be toxic to fish.

Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not contaminate water when disposing of equipment wash water or rinsate.

PHYSICAL OR CHEMICAL HAZARDS

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT, OR SPRAY SOLUTIONS OF THIS PRODUCT, IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. READ ENTIRE LABEL BEFORE USING THIS PRODUCT. USE STRICTLY IN ACCORDANCE WITH LABEL PRECAUTIONARY STATEMENTS AND DIRECTIONS.

Stay off treated areas until sprays have dried. Precautions should be taken to prevent tracking product after application onto desirable grasses.

SHAKE WELL BEFORE USING.

PRODUCT INFORMATION

WHERE TO USE

Apply this product to both established weeds and weed-prone areas where weeds have not yet emerged.

- on cracks and crevices in driveways, sidewalks, walkways, and patios
- along fences, foundations, curbs, retaining walls, and edges of lawns
- around the base or in mulched beds of well-established (at least 6 months old) plants, shrubs or trees
- on gravel areas

HOW THIS PRODUCT WORKS

Important: To prevent new weeds and grasses from growing you must spray the entire area you want to control, not just the emerged weeds.

This product works two ways:

1. One ingredient enters the plants through foliage and moves systemically to the roots, killing many weeds by stopping the production of a substance found in plants. Weeds begin to yellow and wilt in a matter of days with complete kill of many weeds in 1 to 2 weeks.
2. The other ingredient provides a herbicidal barrier in the soil preventing growth and development of newly germinated weeds.

USE RESTRICTIONS

- **DO NOT** spray desirable plants.
- **DO NOT** use in lawns or for lawn renovations as this product prevents desirable grass establishment.
- **DO NOT** use for vegetable garden preparations or in and around fruits and vegetables.
- **DO NOT** spray around ornamental plants or in an area that will be planted or seeded for 6 months after application when applying at the 3 fluid ounces per 1,000 square feet use rate.
- If applying at or less than the 3 fluid ounces per 1,000 square feet rate DO NOT retreat for a minimum of 30 days following application.
- **DO NOT** spray around ornamental plants or in an area that will be planted or seeded for 12 months after application when applying at the 5.75 fluid ounces per 1,000 square feet use rate.
- **DO NOT** apply more than 5.75 fluid ounces per 1,000 square feet per application

- **DO NOT** apply more than 5.75 fluid ounces per 1,000 square feet. per year (12-month period).
- **DO NOT** apply through any type of irrigation system.
- **DO NOT** apply by air.

APPLICATION

When to Apply

Spray when air is calm to prevent drift to desirable plants. For best results, apply during warm, sunny weather (above 60°F).

WEEDS CONTROLLED

Pre-Emergent:

When used as directed, this product will prevent the following weeds from emerging:

Barnyardgrass	Henbit ¹	Purslane, common
Bluegrass, annual (Poa annual) ¹	Itchgrass	Pusley, Florida
Carpetweed	Johnsongrass (from seed)	Rescuegrass ²
Chickweed, common ²	Junglerice	Shepherdspurse ¹
Chickweed, mouse-ear (from seed)	Knotweed ¹	Signalgrass, broadleaf
Crabgrass (large, smooth)	Kochia	Speedwell, Persian
Crowfootgrass	Lambsquarters, common	Sprangletop
Cupgrass, woolly	Lovegrass	Spurge, prostrate
Foxtails, annual	Panicum, (Texas, fall, browntop)	Witch grass
Goosegrass	Pigweed	Woodsorrel, yellow (from seed)

¹ To control this weed in nonturf areas, apply this product in late summer, fall, or winter before weeds germinate.

² Suppression only.

Post-Emergent:

ANNUAL WEEDS

Barley	Goatgrass, jointed	Rice, red
Barnyardgrass	Goosegrass	Rocket, London
Bluegrass, annual	Groundsel, common	Rye
Bluegrass, bulbous	Henbit	Ryegrass, Italian
Brome, downy	Horseweed / Mare's Tail	Shattercane
Buttercup	Lambsquarters, common	Shepherdspurse
Cheat	Mustard, blue	Sicklepod
Chickweed, common	Mustard, tansy	Signalgrass, broadleaf
Chickweed, mouseear (from seed)	Mustard, tumble	Spanishneedles
Cocklebur	Mustard, wild	Sprangletop
Corn	Oats, wild	Spurge, annual
Crabgrass	Panicum, fall	Spurry, umbrella
Dwarf dandelion	Panicum, Texas	Stinkgrass
False flax, smallweed	Pennycress, field	Teaweed
Filaree	Pigweed, redroot	Wheat
Foxtail	Pigweed, smooth	Witch grass
Foxtail, Carolina	Primrose, cutleaf evening	
Geranium, Carolina	Pusley, Florida	

PERENNIAL WEEDS

Alfalfa
Alligatorweed*
Anise (fennel)
Artichoke, Jerusalem
Bahigrass
Bentgrass
Bermudagrass
Bermudagrass, water (knotgrass)
Bindweed, field
Bluegrass, Kentucky
Bluegrass, Texas
Brackenfern
Bromegrass, smooth
Bursage, woollyleaf
Canarygrass, reed
Cattail
Clover, red
Clover, white
Cogongrass
Dallisgrass
Dandelion

Dock, curly
Dogbane, hemp
Fescue, tall
Fescues
Guinea grass
Horsenettle
Horseradish
Ice plant
Johnsongrass
Johnsongrass, seedling
Kikuyugrass
Knapweed
Lantana
Lespedeza
Milkweed
Morningglory
Muhly, wirestem
Mullein, common
Napiergrass
Nightshade, silverleaf
Nutsedge; purple, yellow

Orchardgrass
Pampasgrass*
Paragrass
Phragmites*
Poison hemlock
Quackgrass
Redvine*
Reed, giant
Ryegrass, perennial
Smartweed, swamp
Spurge, leafy*
Starthistle, yellow
Sweet potato, wild*
Thistle, artichoke
Thistle, Canada
Timothy
Torpedograss*
Trumpetcreeper*
Vaseygrass
Velvetgrass
Wheatgrass, Western

* Partial Control

TANK SPRAYER (plastic, aluminum, fiberglass, plastic-lined steel or stainless steel)

- Add 3 to 5.75 fluid ounces to 1 gallon of water and treat 1,000 sq. ft.
- For longer pre-emergent control and post-emergent control of larger weeds use the higher rate.

Do not apply with a galvanized or unlined steel (except stainless steel) sprayer, or through any irrigation system.

HOW TO APPLY

Spray existing weeds AND the entire surrounding weed-prone area you want to keep free of weeds. Spray the area with sufficient volume to assure complete coverage. When spraying around the base of well-established (at least 6 months old) ornamental plants, shrubs, or trees, shield desirable plants from drift with a sheet of cardboard or plastic. Use caution to prevent application to green stems and leaves, damage can occur.

WHEN TO REPLANT

All ornamental bedding plants, trees, shrubs, sod, and seed (flowers and grasses) may be planted 6 months after application when applying at the 3 fluid ounces per 1,000 square feet use rate or 12 months when applying at the 5.75 fluid ounces per 1,000 square feet use rate.

HOW TO CLEAN SPRAYER

To clean sprayer after use, rinse sprayer and all sprayer parts with soap and water 3 times. Spray rinse water on bare soil or gravel. After cleaning, sprayer may be used for other products.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: STORE ABOVE 10°F (12°C) TO KEEP PRODUCT FROM CRYSTALLIZING. Crystals will settle to the bottom. If allowed to crystallize, place in a warm room 68°F (20°C) for several days to redissolve and shake or roll to mix well before using.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. **DO NOT** contaminate water, food or feed by storage or disposal. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. Dispose of excess or waste pesticide by use according to label directions, or contact your State pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration.

WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

LIMITATION OF LIABILITY

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR FOR DAMAGES IN THEIR NATURE OF PENALTIES RELATING TO THE GOODS SOLD, INCLUDING USE, APPLICATION, HANDLING, AND DISPOSAL. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, MANUFACTURER OR SELLER SHALL NOT BE LIABLE TO BUYER OR USER BY WAY OF INDEMNIFICATION TO BUYER OR TO CUSTOMERS OF BUYER, IF ANY, OR FOR ANY DAMAGES OR SUMS OF MONEY, CLAIMS OR DEMANDS WHATSOEVER, RESULTING FROM OR BY REASON OF, OR ARISING OUT OF THE MISUSE, OR FAILURE TO FOLLOW LABEL WARNINGS OR INSTRUCTIONS FOR USE, OF THE GOODS SOLD BY MANUFACTURER OR SELLER TO BUYER. ALL SUCH RISKS SHALL BE ASSUMED BY THE BUYER, USER, OR ITS CUSTOMERS. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER'S OR USER'S EXCLUSIVE REMEDY, AND MANUFACTURER'S OR SELLER'S TOTAL LIABILITY SHALL BE FOR DAMAGES NOT EXCEEDING THE COST OF THE PRODUCT.

If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.

ProDeuce is a registered trademark of Nufarm Americas, Inc.

All other trademarks are the property of their respective owners.

RV123113



1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: ProDeuce® Herbicide
EPA Reg. No.: 228-509
Product Type: Herbicide

Company Name: Nufarm Americas Inc.
 11901 S. Austin Avenue
 Alsip, IL 60803
 1-800-345-3330

Telephone Numbers: For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,
 Call CHEMTREC Day or Night: 1-800-424-9300
 For Medical Emergencies Only, Call 1-877-325-1840

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not the same as the FIFRA label. Certain sections of this SDS are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

2. HAZARDS IDENTIFICATION

PHYSICAL HAZARDS:

Not hazardous

HEALTH HAZARDS:

Eye Irritation Category 2B

ENVIRONMENTAL HAZARDS:

Hazardous to aquatic environment, acute Category 2
 Hazardous to aquatic environment, chronic Category 2

SIGNAL WORD

Warning

HAZARD STATEMENTS:

Causes eye irritation. May cause cancer. Toxic to aquatic life with long lasting effects.



PRECAUTIONARY STATEMENTS

Wash hands thoroughly after handling. Avoid unintended release to the environment.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Collect spillage.

Dispose of contents in accordance with local, state, and federal regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Glyphosate, N-(phosphonomethyl)glycine, Isopropylamine salt	38641-94-0	40 – 41.3
Prodiamine	29091-21-2	7.1 – 7.9
Other Ingredients	Trade Secret	Trade Secret

Synonyms: Glyphosate IPA; N-(phosphonomethyl) glycine, in the form of its isopropylamine salt.

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

If in Eyes: Hold eye open and rinse slowly and gently with water for several minutes. Remove contact lenses, if present, then continue rinsing eye. Get medical attention if irritation occurs and persists.

If Swallowed: Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person. If symptoms develop, get medical advice.

If Inhaled: Move person to fresh air. If breathing is difficult, administer oxygen. If symptoms develop, get medical advice.

If on Skin or Clothing: Take off contaminated clothing. Rinse skin with plenty of water for several minutes. If irritation occurs, get medical advice.

Most important symptoms/effects, acute and delayed: Causes eye irritation. May be harmful if swallowed.

Indication of immediate medical attention and special treatment needed, if necessary: Immediate medical attention should not be required.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Recommended for large fires: foam or water spray. Recommended for small fires: dry chemical or carbon dioxide.

Special Fire Fighting Procedures: Firefighters should wear NIOSH approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

Unusual Fire and Explosion Hazards: If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later. This product reacts with galvanized steel or unlined steel (except stainless steel) to produce hydrogen gas that may form a highly combustible gas mixture which could flash or explode.

Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as oxides of carbon, nitrogen, and phosphorous.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Methods for Cleanup and Disposal: Pump any free liquid into an appropriate closed container. Collect washings for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Other Information: Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE**Handling:**

Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

SAFETY DATA SHEET

ProDeuce® Herbicide

Solutions of this product should be mixed or stored only in stainless steel, aluminum, fiberglass, plastic and plastic lined containers. DO NOT MIX OR STORE THIS PRODUCT OR SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR TANKS. This product or solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

Storage:

STORE ABOVE 10° F (-12° C) TO KEEP PRODUCT FROM CRYSTALLIZING. Crystals will settle to the bottom. If allowed to crystallize, place in a warm room 68° F (20° C) for several days to redissolve and shake or roll to mix well before using. Do not contaminate water, food, or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Personal Protective Equipment:

Eye/Face Protection: To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks, shoes and chemical-resistant gloves. An emergency shower or water supply should be readily accessible to the work area.

Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
Glyphosate, IPA Salt	NE	NE	NE	NE	
Prodiamine	NE	NE	NE	NE	
Other Ingredients	NE	NE	NE	NE	

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Yellow liquid
Odor:	Faint
Odor threshold:	No data available
pH:	4.8 (1% dispersion in DIW)
Melting point/freezing point:	No data available
Initial boiling point and boiling range	No data available
Flash point:	Not applicable due to aqueous formulation
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Relative density:	1.196 g/mL @ 20° C
Solubility(ies):	Miscible
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	408.082 cPs @ 20° C; 177.719 cPs @ 40° C

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Reactivity: This product reacts with aluminum, galvanized steel or unlined steel (except stainless steel) to produce hydrogen gas that may form a highly combustible gas mixture which could flash or explode.

Chemical Stability: This material is stable under normal handling and storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur. This product may react with aluminum, galvanized steel, or unlined steel containers to form hydrogen gas which is highly combustible.

Conditions to Avoid: Excessive heat. Do not store near heat or flame. Do not store in aluminum, galvanized steel, or unlined steel containers.

Incompatible Materials: Strong oxidizing agents: bases and acids. This product reacts with galvanized steel or unlined steel (except stainless steel) to produce hydrogen gas that may form a highly combustible gas mixture which could flash or explode.

Hazardous Decomposition Products: Under fire conditions, may produce gases such as oxides of carbon, nitrogen and phosphorous.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Eye contact, Skin contact

Symptoms of Exposure:

Eye: Slightly irritating based on toxicity studies.

Skin: Slightly toxic and non-irritating based on toxicity studies.

Inhalation: Low inhalation toxicity.

Ingestion: Slightly toxic based on toxicity studies. May cause nausea, vomiting, and abdominal pain.

Delayed, immediate and chronic effects of exposure: None reported.

Toxicological Data:

Data from laboratory studies on this product are summarized below:

Oral: Rat LD₅₀: >5,000 mg/kg

Dermal: Rat LD₅₀: >5,000 mg/kg

Inhalation: Rat 4-hr LC₅₀: >2.06 mg/l (no mortalities at highest dose tested)

Eye Irritation: Rabbit: Mildly irritating (MMTS=19.7)

Skin Irritation: Rabbit: Slightly irritating (PDII= 1.2)

Skin Sensitization: Not a contact sensitizer in guinea pigs following repeated skin exposure.

Subchronic (Target Organ) Effects: Repeated overexposure to glyphosate may decrease body weight gains and effects to liver. Repeated overexposure to prodiamine may decrease body weight gains and affect the liver and thyroid. The surfactant component of this product is reported to cause irritation to the eyes and skin and may contribute to the irritation potential reported for this product. Ingestion may produce gastrointestinal irritation, nausea, vomiting and diarrhea.

Carcinogenicity / Chronic Health Effects: Prolonged overexposure to glyphosate may cause effects to the liver. EPA has given glyphosate a Group E classification (evidence of non-carcinogenicity in humans). Canada PMRA has classified glyphosate as non-carcinogenic. In 2015 IARC classified glyphosate as a probable human carcinogen Group 2A based on limited human evidence and some evidence in animals. In animal studies with prodiamine, benign thyroid tumors were seen in rats, but none were observed in mice.

Reproductive Toxicity: In laboratory animal studies with glyphosate and prodiamine, effects on reproduction have been seen only at doses that produced toxicity to the parent animals. For prodiamine these effects were seen at high doses.

Developmental Toxicity: In animal studies, glyphosate did not cause birth defects in animals; other effects were seen in the fetus only at doses which caused toxic effects to the mother. For prodiamine, fetal toxicity has been seen at high dose levels in rats, developmental and maternal toxicity observed at 1g/kg/day.

Genotoxicity: Glyphosate has produced no genetic changes in a variety of standard tests using animals and animal or bacterial cells. Animal tests with prodiamine did not demonstrate mutagenic effects.

Assessment Carcinogenicity:

This product contains substances that are considered to be probable or suspected human carcinogens as follows:

Component	Regulatory Agency Listing As Carcinogen			
	ACGIH	IARC	NTP	OSHA
Glyphosate, IPA Salt	No	2A	No	No
Prodiamine	No	No	No	No

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Data on Glyphosate Technical:

96-hour LC ₅₀ Bluegill:	120 mg/l	Bobwhite Quail 8-day Dietary LD ₅₀ :	>4,500 ppm
96-hour LC ₅₀ Rainbow Trout:	786 mg/l	Mallard Duck 8-day Dietary LC ₅₀ :	>4,500 ppm
48-hour EC ₅₀ Daphnia:	780 mg/l		

Data on Prodiamine

96-hour LC ₅₀ Bluegill Sunfish:	0.55 ppm	Bobwhite Quail 8-day Dietary LC ₅₀ :	>10,000 ppm
96-hour LC ₅₀ Rainbow Trout:	0.83 ppm	Mallard Duck 8-day Dietary LC ₅₀ :	>10,000 ppm
48-hour LC ₅₀ Daphnia magna:	0.66 ppm	Bees LC ₅₀ /EC ₅₀ :	>100 µg/bee

Environmental Fate:

In the environment glyphosate adsorbs strongly to soil and is expected to be immobile in soil. Glyphosate is readily degraded by soil microbes to AMPA (aminomethyl phosphonic acid) that is further degraded to carbon dioxide. Glyphosate and AMPA are unlikely to enter ground water due to their strong adsorptive characteristics. Terrestrially-applied glyphosate has the potential to move into surface waters through soil erosion because it may be adsorbed to soil particles suspended in the runoff. Aquatic applications registered for certain formulations may also result in glyphosate entering surface waters. Complete degradation is slow, but dissipation in water is rapid because glyphosate is bound in sediments and has low biological availability to aquatic organisms. These characteristics suggest a low potential for bioconcentration in aquatic organisms and this has been verified by laboratory investigations of glyphosate bioconcentration in numerous marine and freshwater organisms with and without soil. The maximum whole body bioconcentration factors for fish were observed to be less than 1X. Bioconcentration factors for sediment dwelling mollusks and crayfish tended to be slightly higher, but were always less than 10X. In addition, any residues accumulated in organisms were rapidly eliminated.

Prodiamine does not bioaccumulate. Prodiamine is persistent in soil (immobile) and has an average half-life of approximately 120 days. Prodiamine is stable in water (sinks in water after 24 hours).

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Wastes resulting from use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures. Emptied container retains vapors and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.

COMMERCIAL Container Handling and Disposal:

Nonrefillable Containers 5 Gallons or Less:

Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration. Do not burn unless allowed by state and local ordinance. If burned stay out of smoke.

Nonrefillable containers larger than 5 Gallons:

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. If recycling or reconditioning is not available, puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration. Do not burn unless allowed by state and local ordinance. If burned stay out of smoke. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers

CONTAINER HANDLING [DISPOSAL]: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

RESIDENTIAL Container Handling and Disposal:

Nonrefillable container. Do not reuse or refill this container.

If empty: Place in trash or offer for recycling if available.

If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor (including toilet) or outdoor (including sewer) drain.

14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this MSDS.

DOT

< 119 gallons per completed package:
Non Regulated

≥ 119 gallons per completed package:
UN 3082, Environmentally hazardous substance, liquid, n.o.s., (Prodiamine), 9, III, Marine pollutant

IMDG

UN 3082, Environmentally hazardous substance, liquid, n.o.s., (Prodiamine), 9, III, Marine pollutant

IATA

Non Regulated

15. REGULATORY INFORMATION

EPA FIFRA INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear protective eyewear. Wash thoroughly with soap and water after handling.

U.S. FEDERAL REGULATIONS

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):

Acute Health

Section 313 Toxic Chemical(s):

None

Reportable Quantity (RQ) under U.S. CERCLA:


None

RCRA Waste Code:

Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

State Information:

Other state regulations may apply. Check individual state requirements.

California Proposition 65:  **ATTENTION.** This product can expose you to chemicals including glyphosate which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

16. OTHER INFORMATION**National Fire Protection Association (NFPA) Hazard Rating:**

Rating for this product: Health: 1 Flammability: 1 Reactivity: 0

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Nufarm Americas Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Nufarm Americas Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS AND ALL SUCH WARRANTIES ARE HEREBY SPECIFICALLY DISCLAIMED.

Date of Issue: March 26, 2018

Supersedes: May 15, 2015



Altosid[®] BRIQUETS



A SUSTAINED RELEASE MOSQUITO GROWTH REGULATOR TO PREVENT ADULT MOSQUITO EMERGENCE (INCLUDING THOSE WHICH MAY TRANSMIT WEST NILE VIRUS)

SPECIMEN LABEL

ACTIVE INGREDIENT:

(S)-Methoprene (Dry Weight Basis)
(CAS #65733-16-6) 8.62%

OTHER INGREDIENTS: 91.38%
Total 100.00%

This product contains water, therefore the weight of the briquet and percent by weight of active ingredient will vary with hydration. The Ingredient Statement is expressed on a dry weight basis.

EPA Reg. No. 2724-375 EPA Est. No. 2724-TX-1

KEEP OUT OF REACH OF CHILDREN
CAUTION

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS
AND DOMESTIC ANIMALS
CAUTION**

Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse.

FIRST AID

Call a poison control center or doctor for treatment advice.

- | | |
|-------------------|---|
| If in eyes | <ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. |
|-------------------|---|

FIRST AID (CONTINUED)

- | | |
|-------------------------------|---|
| If on skin or clothing | <ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. |
|-------------------------------|---|

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-248-7763 for emergency medical treatment information.

ENVIRONMENTAL HAZARDS

Do not contaminate water when disposing of unused product.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Note to User: Do not remove **ALTOSID[®] Briquets** from container except for immediate use.

Because of the unique mode of action of **ALTOSID[®] Briquets**, users must be familiar with special techniques for accurate evaluation of treatments. See Application Rates and Intervals section of this label or consult local Mosquito Abatement Agency. Effective use of **ALTOSID[®] Briquets** in sites subjected to periodic heavy flow of water requires careful attention to briquet placement and to the possible need for retreatment. Use of the product in storm drains, waste treatment and settling ponds, and similar systems should therefore be limited to experienced pesticide applicators, such as personnel of Mosquito Abatement Districts and Public Health Agencies.

Introduction: The **ALTOSID[®] Briquet** is a formulation designed to release effective levels of **ALTOSID[®] Insect Growth Regulator** up to 30 days under typical environmental conditions. Release of **ALTOSID[®] Insect Growth Regulator** is effected by dissolution of the **ALTOSID[®] Briquet**. If briquets become covered by obstructions such as debris, vegetation, and loose

sediment as a result of high rainfall or flow, normal dispersion of the active ingredient can be inhibited. Water flow may increase the dissolution of the briquet thus reducing the residual life of the briquet. Inspect areas of water flow to determine appropriate retreatment intervals. To assure positive results, place **ALTOSID® Briquets** where they will not be swept away by flushing action. **ALTOSID® Briquets** prevent the emergence of adult mosquitoes including *Anopheles*, *Culex*, *Culiseta*, *Coquillettidia*, and *Mansonia* spp., as well as those of the floodwater mosquito complex (*Aedes*, *Ochlerotatus*, and *Psorophora* spp.) from treated water. Treated larvae continue to develop normally to the pupal stage where they die.

APPLICATION TIMING

Apply **ALTOSID® Briquets** at the beginning of the mosquito season. **ALTOSID® Briquets** provide up to 30 days residual control. Continue treatment through the last brood of the season. Apply at any stage of larval development. **ALTOSID® Briquets** may be applied as a pre-flood treatment prior to wetting events. **ALTOSID® Briquets** will be unaffected in dry down situations and will begin working again during subsequent wetting events until the briquet is exhausted.

NOTE: This insect growth regulator has no effect on mosquitoes which have reached the pupal or adult stage prior to treatment.

APPLICATION SITES

ALTOSID® Briquets are designed to control mosquitoes in small bodies of water. Examples of application sites are: storm drains, catch basins, roadside ditches, fish ponds, ornamental ponds and fountains, other artificial water-holding containers, animal watering troughs, cesspools and septic tanks, waste treatment and settling ponds, flooded crypts, transformer vaults, abandoned swimming pools, tires, construction and other manmade depressions, cattail marshes, water-hyacinth beds, vegetation-choked phosphate pits, pastures, meadows, rice fields, freshwater swamps and marshes, salt and tidal marshes, treeholes, woodland pools, floodplains, and dredging spoil sites. For application sites connected by a water system, i.e., storm drains or catch basins, treat all of the water holding sites in the system to maximize the efficiency of the treatment program.

APPLICATION RATES AND INTERVALS

For mosquito control in non-(or low-) flow, shallow depressions (up to two ft in depth), treat on the basis of surface area placing one **ALTOSID® Briquet** per 100 sq ft. For applications in storm water drainage areas, sewers, and catch basins: Place one **ALTOSID® Briquet** into each catch basin. Follow the chart below to determine the number of **ALTOSID® Briquets** to use in large catch basins. Place one **ALTOSID® Briquet** per 100 sq ft of surface area up to two feet deep for storm water drainage areas. Use one additional **ALTOSID® Briquet** per two feet of water depth in areas deeper than two feet.

ALTOSID® BRIQUET APPLICATION CHART		
Number of Briquets	Catch Basin Size	Water Depth (Feet)
1	0-1,500	0-2
2	1,500-3,000	2-4
3	3,000-4,500	4-6
4	4,500-6,000	6-8

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. **Storage:** Store in cool, dry place. **Pesticide Disposal:** Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility. **Container Disposal:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling, if available, or dispose of empty bag and box in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

To the fullest extent permitted by law, Seller makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Always read the label before using this product.

For more information call **1-800-248-7763**.

www.altosid.com

Wellmark International
1501 East Woodfield Road 200W
Schaumburg, Illinois 60173



ALTOSID and ZOECON are registered trademarks of Wellmark International.



Safety Data Sheet

Section 1: Identification

Product identifier

- Product Name** • **Zoecon Altosid Briquets**
- Synonyms** • 37060F; 37090C; EPA Reg. No.: 2724-375; ProLink Briquets
- Product Description** • Gray to black solid.
- Relevant identified uses of the substance or mixture and uses advised against**
- Recommended use** • Insect growth regulator.
- Restrictions on use** • Avoid contact with eyes, skin or clothing. Keep out of reach of children.

Details of the supplier of the safety data sheet

- Manufacturer** • Wellmark International
1501 E. Woodfield Road, Suite 200 West
Schaumburg, IL 60173
United States
www.centralmosquitocontrol.com

Emergency telephone number

- Manufacturer** • 1-800-424-9300 - CHEMTREC
- Manufacturer** • 1-703-527-3887 - CHEMTREC - Outside North America - Collect Calls Accepted
- Manufacturer** • 1-888-914-2082

Section 2: Hazard Identification

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

- OSHA HCS 2012** • Carcinogenicity 1A
Eye Mild Irritation 2B
Combustible Dust

Label elements

OSHA HCS 2012

DANGER



- Hazard statements** • May cause cancer.
Causes eye irritation

May form combustible dust concentrations in air.

Precautionary statements

Prevention • Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not handle until all safety precautions have been read and understood.
Obtain special instructions before use.

Response • IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF exposed or concerned: Get medical advice/attention.

Storage/Disposal • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
Store locked up.

Supplemental information • Exposure to silica dust from the finished product is not expected to occur due to the manner in which the constituents are bound. Finished product is not considered carcinogenic.

Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Section 3 - Composition/Information on Ingredients

Substances

- Material does not meet the criteria of a substance.

Mixtures

Composition		
Chemical Name	Identifiers	%
(s)-Methoprene	CAS:65733-16-6	8.62%
Plaster of paris	CAS:26499-65-0	71.84%
Silica, crystalline - quartz	CAS:14808-60-7	< 0.73%
Activated Carbon	CAS:7440-44-0	17.53%
Other ingredients	NDA	1.28%

Section 4: First-Aid Measures

Description of first aid measures

Inhalation

- IF INHALED: If breathing is difficult, remove person to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin

- IF ON SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. If skin irritation occurs: Get medical advice/attention.

Eye

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion

- IF SWALLOWED: call a poison center or doctor if you feel unwell. Rinse mouth. Never

give anything by mouth to an unconscious person. Call a physician or poison control center.

Most important symptoms and effects, both acute and delayed

- Causes eye irritation, may cause cancer.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

- Treat symptomatically and supportively.

Section 5: Fire-Fighting Measures

Extinguishing media

Suitable Extinguishing Media • SMALL FIRES: Dry chemical, CO₂, water spray or regular foam.
LARGE FIRE: Water spray, fog or regular foam.

Unsuitable Extinguishing Media

- Avoid heavy hose streams.

Firefighting Procedures

- Combustible dust - use low-pressure medium fog streams to avoid dust clouds. Eliminate ignition sources. Move combustibles out of path of advancing pool if you can do so without risk. Stay upwind.
LARGE FIRES: Dike fire control water for later disposal; do not scatter the material.

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards

- Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Hazardous Combustion Products

- Decomposes upon heating to produce toxic vapors/gases which may include carbon oxides and nitrogen oxides.

Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions

- Avoid contact with skin, eyes, and clothing. Use appropriate Personal Protective Equipment (PPE). Ventilate enclosed areas. Do not walk through spilled material. Keep all sources of ignition away and avoid creating dusty conditions.

Emergency Procedures

- Stay upwind. Ventilate closed spaces before entering. Contain spill and monitor for excessive dust accumulation. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unauthorized personnel away. Turn off electric power to area.

Environmental precautions

- Contain and prevent from release into any waterway, sewer or drain.

Methods and material for containment and cleaning up

Containment/Clean-up Measures

- Use appropriate Personal Protective Equipment (PPE). Avoid generating dust. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Sweep or scoop up spills, dispose of any unusable material in approved landfill. Non-sparking tools should be used.

Section 7 - Handling and Storage

Precautions for safe handling

Handling

- Wash hands thoroughly with soap and water after handling. Read label before use. Avoid contact with skin or eyes. Avoid breathing dust. Avoid contact with heat and

ignition sources.

Conditions for safe storage, including any incompatibilities

- Storage**
- Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in cool, dry area, inaccessible to children. Store only in original container.

Section 8 - Exposure Controls/Personal Protection

Control parameters

- Exposure Limits/Guidelines**
- No data available.

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
Silica, crystalline - quartz (14808-60-7)	TWAs	0.025 mg/m ³ TWA (respirable fraction)	0.05 mg/m ³ TWA (respirable dust)	Not established
Plaster of paris (26499-65-0)	TWAs	Not established	10 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable dust)	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)

Exposure Limits Supplemental OSHA

- Silica, crystalline - quartz (14808-60-7): **Mineral Dusts:** ((30)/(%SiO₂ + 2) mg/m³ TWA, total dust; (250)/(%SiO₂ + 5) mppcf TWA, respirable fraction; (10)/(%SiO₂ + 2) mg/m³ TWA, respirable fraction)

Exposure controls

Engineering Measures/Controls

- Use adequate ventilation to remove vapors (fumes, dust etc)

Personal Protective Equipment

Pictograms



Respiratory

- If prolonged exposure is anticipated, it is recommended for handlers to wear an approved MSHA/NIOSH dust mask N-95.

Eye/Face

- Wear safety glasses.

Hands

- Wear appropriate gloves.

Skin/Body

- If prolonged exposure is anticipated, it is recommended for handlers to wear appropriate clothing to prevent skin contact.

General Industrial Hygiene Considerations

- Avoid contact with skin, eyes or clothing.

Environmental Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	Gray to black solid.
Color	Gray to black.	Odor	Slight hydrocarbon.
Odor Threshold	No data available		
General Properties			
Boiling Point	No data available	Melting Point/Freezing Point	No data available

Decomposition Temperature	No data available	pH	Not relevant
Specific Gravity/Relative Density	1.04 g/cc (64.9 lb/ft ³)	Water Solubility	No data available
Viscosity	Not relevant		
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		
Flammability			
Flash Point	Not relevant	UEL	No data available
LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	No data available		
Environmental			
Octanol/Water Partition coefficient	No data available		

Section 10: Stability and Reactivity

Reactivity

- This material is friable and can create small dust particles during any handling, processing, and transfer operations. This material can form explosive dust/air suspensions that are ignitable under some conditions.

Chemical stability

- Stable under normal temperatures and pressures.

Possibility of hazardous reactions

- Hazardous polymerization will not occur. May form combustible dust concentrations in the air.

Conditions to avoid

- Heat, sparks, open flame, other ignition sources, and oxidizing conditions.

Incompatible materials

- No data available. Strong acids. Strong oxidizing agents.

Hazardous decomposition products

- Thermal decomposition may produce toxic vapors and/or gases.

Section 11 - Toxicological Information

Information on toxicological effects

	CAS	
Zoecon Altosid Briquets	NDA	Acute Toxicity: Ingestion/Oral-Rat LD50 • >5100 mg/kg; Skin-Rabbit LD50 • >2100 mg/kg; Irritation: Eye-Rabbit • Mild irritation; Skin-Rabbit • Essentially non-irritating

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • Acute Toxicity - Dermal - Classification criteria not met; Acute Toxicity - Inhalation - Classification criteria not met; Acute Toxicity - Oral - Classification criteria not met
Aspiration Hazard	OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	OSHA HCS 2012 • Carcinogenicity 1A

Germ Cell Mutagenicity	OSHA HCS 2012 • Not classified - data lacking
Skin corrosion/Irritation	OSHA HCS 2012 • Classification criteria not met
Skin sensitization	OSHA HCS 2012 • Classification criteria not met
STOT-RE	OSHA HCS 2012 • Classification criteria not met
STOT-SE	OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	OSHA HCS 2012 • Classification criteria not met
Respiratory sensitization	OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	OSHA HCS 2012 • Eye Mild Irritation 2B

Route(s) of entry/exposure • Inhalation, Ingestion, Eyes, and Skin

Potential Health Effects

Inhalation

Acute (Immediate)

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- Exposure to respirable crystalline silica is not expected during normal use of this product. However, prolonged overexposure to respirable crystalline silica may cause lung disease (silicosis).

Skin

Acute (Immediate)

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- No data available.

Eye

Acute (Immediate)

- Causes eye irritation.

Chronic (Delayed)

- No data available.

Ingestion

Acute (Immediate)

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- No data available.

Carcinogenic Effects

- Exposure to respirable crystalline silica dust from the finished product is not expected to occur due to the manner in which the constituents are bound, thus the finished product is not considered carcinogenic under conditions of normal use.

Section 12 - Ecological Information

Toxicity

Component	CAS	Data
(s)-Methoprene (8.62%)	65733-16-6	Crustacea: NOEC Crustacea <i>Mysid shrimp</i> 0.014 mg/L [Chronic]; 96 Hour(s) LC50 Crustacea <i>Mysid shrimp</i> 0.11 mg/L [Acute]; 48 Hour(s) LC50 Crustacea <i>Daphnia magna</i> 0.36 mg/L [Acute]; Fish: 96 Hour(s) LC50 Fish <i>Rainbow Trout</i> 0.76 mg/L [Acute]; 96 Hour(s) LC50 Fish <i>Blue Gill</i> >0.37 mg/L [Acute]; NOEC Fish <i>Fathead minnow</i> 0.048 mg/L [Chronic]

Persistence and degradability

- No data available.

Bioaccumulative potential

- No data available.

Mobility in Soil

- No data available.

Other adverse effects

- No data available.

Section 13 - Disposal Considerations

Waste treatment methods

- Product waste** • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
- Packaging waste** • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class (es)	Packing group	Environmental hazards
DOT	N/A	Not regulated	N/A	N/A	N/A
IMO/IMDG	N/A	Not regulated	N/A	N/A	N/A
IATA/ICAO	N/A	Not regulated	N/A	N/A	N/A

Special precautions for user • None specified.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • Not relevant.

Other information

IMO/IMDG • No data available

IATA/ICAO • No data available

Key to abbreviations

= N/A = Not applicable.

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Acute, Chronic

FIFRA – Pesticide Labeling

This material is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION

Precautionary Statements • Keep out of reach of children.

Hazards to Humans and Domestic Animals • CAUTION: Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

First Aid • Call a poison control center or doctor for treatment advice. If in eyes • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. If on skin or clothing: • Takeoff contaminated clothing. • Rinse skin immediately with

plenty of water for 15 - 20 minutes.

Environmental Hazards • Do not contaminate water when disposing of unused product.

Inventory		
Component	CAS	TSCA
(s)-Methoprene	65733-16-6	No
Plaster of paris	26499-65-0	No
Silica, crystalline - quartz	14808-60-7	Yes

Section 16 - Other Information

- Last Revision Date** • 23/July/2015
- Preparation Date** • 23/July/2015
- Disclaimer/Statement of Liability** • The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.



Altosid[®] PELLETS

MOSQUITO GROWTH REGULATOR

A GRANULAR PRODUCT TO PREVENT ADULT MOSQUITO EMERGENCE (INCLUDING THOSE WHICH MAY TRANSMIT WEST NILE VIRUS)

SPECIMEN LABEL

ACTIVE INGREDIENT:
 (S)-Methoprene (CAS #65733-16-6) 4.25%
OTHER INGREDIENTS: 95.75%
 Total 100.00%

EPA Reg No. 2724-448 EPA Est. No. 39578-TX-1

KEEP OUT OF REACH OF CHILDREN
CAUTION

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS
AND DOMESTIC ANIMALS
CAUTION

Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling.

FIRST AID	
Call a poison control center or doctor for treatment advice.	
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-248-7763 for emergency medical treatment information.	

ENVIRONMENTAL HAZARDS

Do not contaminate water when disposing of rinsate or equipment washwaters.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

INTRODUCTION

ZOËCON[®] ALTOSID[®] Pellets (ALTOSID[®] Pellets) release ALTOSID[®] Insect Growth Regulator as they erode. ALTOSID[®] Pellets prevent the emergence of adult standing water mosquitoes, including *Anopheles*, *Culex*, *Culiseta*, *Coquillettidia*, and *Mansonia* spp., as well as adults of the floodwater mosquitoes such as *Aedes*, *Ochlerotatus*, and *Psorophora* spp. from treated sites.

GENERAL DIRECTIONS

ALTOSID[®] Pellets release effective levels of ALTOSID[®] Insect Growth Regulator for up to 30 days under typical environmental conditions. Continue treatment through the last brood of the season. Treated larvae continue to develop normally to the pupal stage where they die. **NOTE:** This insect growth regulator has no effect on mosquitoes which have reached the pupal or adult stage prior to treatment.

APPLICATION SITES AND RATES

Use lower application rates when water is shallow, vegetation and/or pollution are minimal, and insect populations are low. Use higher rates when water is deep (>2 ft), vegetation, pollution, and/or organic debris or water flow are high, and insect populations are high. In instances of high organic debris and water flow, residual activity may be diminished.

MOSQUITO HABITAT **RATE (LB/ACRE)**

Floodwater sites

Pastures, meadows, rice fields, freshwater swamps and marshes, salt and tidal marshes, cattail marshes, woodland pools, floodplains, tires, other artificial water-holding containers 2.5–5

Dredging spoil sites, waste treatment and settling ponds, ditches and other manmade depressions 5–10

Permanent water sites

Ornamental ponds and fountains, fish ponds, cattail marshes, water hyacinth beds, flooded crypts, transformer vaults, abandoned swimming pools, construction and other manmade depressions, treeholes, other artificial water-holding containers 2.5–5

Storm drains, catch basins, roadside ditches, cesspools, septic tanks, waste settling ponds, vegetation-choked phosphate pits 5–10

APPLICATION METHODS

Mosquitoes: Apply **ALTOSID® Pellets** up to 15 days prior to flooding, or at any stage of larval development after flooding or in permanent water sites. Fixed wing aircraft or helicopters equipped with granular spreaders capable of applying rates from 2.5 to 10 lb/acre may be used to apply **ALTOSID® Pellets**. The pellets may also be applied using ground equipment which will achieve good, even coverage at the above rates. Apply **ALTOSID® Pellets** to artificial containers such as tires and catch basins, etc.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. Store closed containers of **ALTOSID® Pellets** in a cool, dry place.

PESTICIDE DISPOSAL

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING

Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent). Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

WARRANTY AND CONDITIONS OF SALE

Seller makes no warranty, expressed or implied, concerning the use and handling of this product other than indicated on the label. Buyer assumes all risks of use and handling of this material when such use and handling are contrary to label instructions.

For information or in case of an emergency, call **1-800-248-7763**.

www.altosid.com

Wellmark International
1501 East Woodfield Road 200W
Schaumburg, Illinois 60173





Safety Data Sheet

Section 1: Identification

Product identifier

Product Name

- **Zoecon Altosid Pellets**

Synonyms

- 100503099; 37720B; 37730D; 38540; EPA Reg. No.: 2724-448; Prolink Pellets Mosquito Growth Regulator; Strike Pellets; Zoecon Altosid Pellets WSP; Zoecon Altosid WSP; Zoecon RF-330 Altosid Mosquito Growth Regulator

Product Description

- Black rod-shaped pellets.

Relevant identified uses of the substance or mixture and uses advised against

Recommended use

- Insect growth regulator

Restrictions on use

- Keep out of the reach of children. Avoid contact with eyes, skin or clothing. Avoid breathing dust.

Details of the supplier of the safety data sheet

Manufacturer

- Wellmark International
1501 E. Woodfield Road, Suite 200 West
Schaumburg, IL 60173
United States
www.centralmosquitocontrol.com

Emergency telephone number

Manufacturer

- 1-800-248-7763

Manufacturer

- 1-800-424-9300 - CHEMTREC

Manufacturer

- 1-703-527-3887 - CHEMTREC - Outside North America - Collect Calls Accepted

Section 2: Hazard Identification

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012

- Eye Mild Irritation 2B
Combustible Dust
Carcinogenicity 1A

Label elements

OSHA HCS 2012

DANGER



- Hazard statements** • May form combustible dust concentrations in air.
Causes eye irritation
May cause cancer.

Precautionary statements

- Prevention** • Wash thoroughly after handling.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/protective clothing/eye protection/face protection.

- Response** • IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF exposed or concerned: Get medical advice/attention.

- Storage/Disposal** • Store locked up.
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

- Supplemental information** • The finished product is not considered carcinogenic because of the product's physical form. The Hazard Statement "May Cause Cancer" is presented because a component of this product contains a naturally occurring trace amount of crystalline silica (quartz) which is classified as carcinogenic to humans if inhaled. Respiratory exposure to silica dust from the finished product is not expected to occur under normal conditions of use due to the manner in which the constituents are bound or packaged in water soluble pouches. The crystalline silica in the finished product is unlikely to pose personal exposure via inhalation.

Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Section 3 - Composition/Information on Ingredients

Substances

- Material does not meet the criteria of a substance.

Mixtures

Composition		
Chemical Name	Identifiers	%
(s)-Methoprene	CAS:65733-16-6	4.25%
Plaster of paris	CAS:26499-65-0	69.16%
Silica, crystalline - quartz	CAS:14808-60-7	0.7%
Activated Carbon	CAS:7440-44-0	9.26%
Other ingredients	NDA	16.63%

Section 4: First-Aid Measures

Description of first aid measures

Inhalation

- IF INHALED: If breathing is difficult, remove person to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms occur.

Skin

- IF ON SKIN: Wash with plenty of soap and water. If irritation or rash occurs, get

- medical advice/attention. Wash contaminated clothing before reuse.
- Eye**
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison control center or doctor for treatment advice.
- Ingestion**
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended.

Most important symptoms and effects, both acute and delayed

- Causes eye irritation, may cause cancer. Refer to Section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed

- Notes to Physician**
- Treat symptomatically and supportively.

Section 5: Fire-Fighting Measures

Extinguishing media

- Suitable Extinguishing Media**
- Water fog, fine water spray, carbon dioxide or foam.

- Unsuitable Extinguishing Media**
- Avoid heavy hose streams.

- Firefighting Procedures**
- Do not allow fire fighting water to escape into waterways or sewers. Combustible dust - use low-pressure medium fog streams to avoid dust clouds.

Special hazards arising from the substance or mixture

- Unusual Fire and Explosion Hazards**
- Combustible Dust.
Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

- Hazardous Combustion Products**
- Carbon monoxide and carbon dioxide.

Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

- Personal Precautions**
- Wear appropriate personal protective equipment, avoid direct contact. Keep all sources of ignition away and avoid creating dusty conditions. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not walk through spilled material. Ventilate enclosed areas.

- Emergency Procedures**
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Contain spill and monitor for excessive dust accumulation. Keep unauthorized personnel away. Ventilate closed spaces before entering.

Environmental precautions

- Avoid run off to waterways and sewers.

Methods and material for containment and cleaning up

- Containment/Clean-up Measures**
- Carefully shovel or sweep up spilled material and place in suitable container. Use clean non-sparking tools to collect absorbed material. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
Wear appropriate personal protective equipment, avoid direct contact.

Section 7 - Handling and Storage

Precautions for safe handling

Handling

- Avoid contact with skin, eyes, and clothing. Wear appropriate personal protective equipment, avoid direct contact. Do not use in areas without adequate ventilation. Take precautionary measures against static charges. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

Conditions for safe storage, including any incompatibilities

Storage

- Store in cool, dry area, inaccessible to children. Store at temperatures not exceeding 90°F. Store away from heat or open flame. Store locked up.

Incompatible Materials or Ignition Sources

- Heat, sparks, open flame. Strong acids, strong bases, and oxidizing agents.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure Limits/Guidelines

- It is recommended that dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment.

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
Silica, crystalline - quartz (14808-60-7)	TWAs	0.025 mg/m ³ TWA (respirable fraction)	0.05 mg/m ³ TWA (respirable dust)	Not established
Plaster of paris (26499-65-0)	TWAs	Not established	10 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable dust)	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)

Exposure Limits Supplemental

OSHA

•Silica, crystalline - quartz (14808-60-7): **Mineral Dusts:** ((30)/(%SiO₂ + 2) mg/m³ TWA, total dust; (250)/(%SiO₂ + 5) mppcf TWA, respirable fraction; (10)/(%SiO₂ + 2) mg/m³ TWA, respirable fraction)

Exposure controls

Engineering Measures/Controls

- Ensure that dust handling systems (such as exhaust ducts, dust collectors, vessels and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is not leakage from the equipment). Local exhaust ventilation.

Personal Protective Equipment

Pictograms



Respiratory

- Follow the OSHA respirator regulations found in 29 CFR 1910.134. Use a NIOSH/MSHA approved respirator if nuisance dust exposure limits are exceeded or symptoms are experienced.

Eye/Face

- Wear safety glasses.

Hands

- Wear appropriate gloves.

Skin/Body

- If prolonged exposure is anticipated, it is recommended for handlers to wear appropriate clothing to prevent skin contact.

General Industrial Hygiene Considerations

- Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Environmental Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	Dark gray to black rod-shaped pellets.
Color	Dark gray to black.	Odor	Slight hydrocarbon.
Odor Threshold	No data available		
General Properties			
Boiling Point	No data available	Melting Point/Freezing Point	No data available
Decomposition Temperature	No data available	pH	Not relevant
Specific Gravity/Relative Density	No data available	Bulk Density	59 to 60 lb(s)/ft ³
Water Solubility	Insoluble	Viscosity	Not relevant
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		
Flammability			
Flash Point	Not relevant	UEL	No data available
LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	No data available		
Environmental			
Octanol/Water Partition coefficient	No data available		

Section 10: Stability and Reactivity

Reactivity

- This material is friable and can create small dust particles during any handling, processing, and transfer operations. This material can form explosive dust/air suspensions that are ignitable under some conditions.

Chemical stability

- Stable under normal temperatures and pressures.

Possibility of hazardous reactions

- Hazardous polymerization will not occur. May form combustible dust concentrations in the air.

Conditions to avoid

- Heat, sparks, open flame, other ignition sources, and oxidizing conditions. Strong oxidizers.

Incompatible materials

- Heat, strong acids, strong bases and oxidizing agents.

Hazardous decomposition products

- Carbon monoxide and carbon dioxide.

Section 11 - Toxicological Information

Information on toxicological effects

CAS

Zoecon Altosid Pellets	NDA	Acute Toxicity: Ingestion/Oral-Rat LD50 • >5100 mg/kg; Skin-Rabbit LD50 • >2100 mg/kg; Irritation: Eye-Rabbit • Mild irritation; Skin-Rabbit • Essentially non-irritating
------------------------	-----	--

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • Acute Toxicity - Dermal - Classification criteria not met; Acute Toxicity - Inhalation - Classification criteria not met; Acute Toxicity - Oral - Classification criteria not met
Aspiration Hazard	OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	OSHA HCS 2012 • Carcinogenicity 1A
Germ Cell Mutagenicity	OSHA HCS 2012 • Not classified - data lacking
Skin corrosion/Irritation	OSHA HCS 2012 • Classification criteria not met
Skin sensitization	OSHA HCS 2012 • Classification criteria not met
STOT-RE	OSHA HCS 2012 • Classification criteria not met
STOT-SE	OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	OSHA HCS 2012 • Classification criteria not met
Respiratory sensitization	OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	OSHA HCS 2012 • Eye Mild Irritation 2B

Potential Health Effects

Inhalation

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)** • Exposure to respirable crystalline silica is not expected during normal use of this product. However, prolonged overexposure to respirable crystalline silica may cause lung disease (silicosis).

Skin

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)** • No data available.

Eye

- Acute (Immediate)** • Causes eye irritation.
- Chronic (Delayed)** • No data available

Ingestion

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)** • No data available

Other

- Chronic (Delayed)** • No data available.

Carcinogenic Effects

- Exposure to respirable crystalline silica dust from the finished product is not expected to occur due to the manner in which the constituents are bound, thus the finished product is not considered carcinogenic under conditions of normal use.

Section 12 - Ecological Information

Toxicity

Component	CAS	Data

(s)-Methoprene (4.25%)	65733-16-6	Crustacea: NOEC Crustacea 0.014 mg/L [Chronic]; 48 Hour(s) LC50 Crustacea 0.36 mg/L [Acute]; Fish: 96 Hour(s) LC50 Fish 0.76 mg/L [Acute]; 96 Hour(s) LC50 Fish 0.37 mg/L [Acute]; NOEC Fish 0.048 mg/L [Chronic]
---------------------------	------------	--

Persistence and degradability

- No data available

Bioaccumulative potential

- No data available

Mobility in Soil

- No data available

Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations**Waste treatment methods****Product waste**

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class (es)	Packing group	Environmental hazards
DOT	N/A	Not regulated	N/A	N/A	N/A
IMO/IMDG	N/A	Not regulated	N/A	N/A	N/A
IATA/ICAO	N/A	Not regulated	N/A	N/A	N/A

Special precautions for user • None specified.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • No data available

Other information

IMO/IMDG • No data available

IATA/ICAO • No data available

Key to abbreviations

= N/A = Not applicable.

Section 15 - Regulatory Information**Safety, health and environmental regulations/legislation specific for the substance or mixture**

SARA Hazard Classifications • Acute

FIFRA – Pesticide Labeling

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal

pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION

Hazard Statements • KEEP OUT OF REACH OF CHILDREN

Precautionary Statements

Hazards to Humans and Domestic Animals • HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling.

First Aid • Call a poison control center or doctor for treatment advice. If in eyes • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. If on skin or clothing • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes.

Environmental Hazards • Do not contaminate water when disposing of residue or equipment wash waters.

Inventory		
Component	CAS	TSCA
(s)-Methoprene	65733-16-6	No
Activated Carbon	7440-44-0	Yes
Plaster of paris	26499-65-0	No
Silica, crystalline - quartz	14808-60-7	Yes

Section 16 - Other Information

- Last Revision Date** • 22/June/2015
- Preparation Date** • 22/June/2015
- Disclaimer/Statement of Liability** • The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.



Altosid[®] PELLETS WSP

MOSQUITO GROWTH REGULATOR



- A GRANULAR PRODUCT TO PREVENT ADULT MOSQUITO EMERGENCE (*including those which may transmit West Nile virus*)
- IDEAL WHEN TREATING HARD-TO-REACH STORMWATER SITES
- READY-TO-USE WATER SOLUBLE POUCHES (WSP)
- A SINGLE WSP COVERS UP TO 135 FT² OF WATER SURFACE AREA

SPECIMEN LABEL

ACTIVE INGREDIENT:

(S)-Methoprene (CAS# 65733-16-6)..... 4.25%

OTHER INGREDIENTS:..... 95.75%

TOTAL 100.00%

EPA Reg. No. 2724-448

EPA Est. No. 2724-TX-1

KEEP OUT OF REACH OF CHILDREN

CAUTION

See additional Precautions

PRECAUTIONARY STATEMENTS – HAZARDS TO HUMANS & DOMESTIC ANIMALS CAUTION

Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling.

FIRST AID

Call a poison control center or doctor for treatment advice.

IF IN EYES • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.

IF ON SKIN • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-248-7763 for emergency medical treatment information.

ENVIRONMENTAL HAZARDS

Do not contaminate water when disposing of rinsate or equipment washwaters.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling

INTRODUCTION

ZOËCON[®] ALTOSID[®] Pellets WSP (ALTOSID[®] Pellets WSP) release ALTOSID[®], an Insect Growth Regulator as they erode. ALTOSID[®] Pellets WSP prevent the emergence of adult standing water mosquitoes, including *Anopheles*, *Culex*, *Culiseta*, *Coquillettidia*, and *Mansonia* spp., as well as adults of the floodwater mosquitoes, such as *Aedes*, *Ochlerotatus*, and *Psorophora* spp. from treated sites.

GENERAL DIRECTIONS

ALTOSID[®] Pellets WSP release effective levels of ALTOSID[®] Insect Growth Regulator for up to 30 days under typical environmental conditions. Continue treatment through the last brood of the season. Treated larvae continue to develop normally to the pupal stage where they die.

NOTE: This insect growth regulator has no effect on mosquitoes which have reached the pupal or adult stage prior to treatment.

ALTOSID[®] Pellets WSP are convenient ready-to-use pouches for treating mosquito breeding sites. The pouches are water-sensitive and when in contact with water, the pouches dissolve, releasing the pellets. Use care when handling unused pouches so that moisture does not collect on the pouches. Keep pouches sealed in the original package until ready for use. Once outer foil bag containing water soluble pouches is opened, use pouches within one day.

APPLICATION SITES

ALTOSID® Pellets WSP are effective against *Anopheles*, *Culex*, *Culiseta*, *Aedes*, *Ochlerotatus*, *Coquillettidia*, *Mansonia* and *Psorophora* mosquito species. Use pouches to treat small bodies of water such as: catch basins, storm drains, roadside ditches, tree holes, flooded crypts, transformer pits, fish ponds, woodland pools, fountains, septic tanks, ornamental ponds, manmade depressions, animal watering troughs, ditches, and other natural or artificial water-holding containers.

APPLICATION RATE

Place one pouch into each catch basin. For other mosquito breeding sites, one pouch will treat up to 135 ft² of surface area. **ALTOSID® Pellets WSP** will provide up to 30 days control of emerging adult mosquitoes.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. Store closed containers of Altosid® Pellets WSP in a cool, dry place. **Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. **Container Handling:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available, or dispose of empty outer foil pouch in the trash as long as Water Soluble Pouch (WSP) is unbroken.

WARRANTY AND CONDITIONS OF SALE

Seller makes no warranty, expressed or implied, concerning the use and handling of this product other than indicated on the label. Buyer assumes all risks of use and handling of this material when such use and handling are contrary to label instructions.

For information or in case of an emergency, call 1-800-248-7763.

www.altosid.com

Produced for:

Wellmark International

1501 East Woodfield Road 200W
Schaumburg, Illinois 60173

Zoecon, Zoecon with design and Altosid are registered trademarks of Wellmark International.
©2005–2012 Wellmark International.

February, 2012
Schaumburg, IL



Safety Data Sheet

Section 1: Identification

Product identifier

Product Name

• **Zoecon Altosid Pellets**

Synonyms

• 100503099; 100526053; 37720B; 37730D; 38540; EPA Reg. No.: 2724-448; Prolink Pellets Mosquito Growth Regulator; Strike Pellets; Zoecon Altosid Pellets WSP; Zoecon Altosid WSP; Zoecon RF-330 Altosid Mosquito Growth Regulator

Product Description

• Black rod-shaped pellets.

Relevant identified uses of the substance or mixture and uses advised against

Recommended use

• Insect growth regulator

Restrictions on use

• Keep out of the reach of children. Avoid contact with eyes, skin or clothing. Avoid breathing dust.

Details of the supplier of the safety data sheet

Manufacturer

• Wellmark International
1501 E. Woodfield Road, Suite 200 West
Schaumburg, IL 60173
United States
www.centralmosquitocontrol.com

Emergency telephone number

Manufacturer

• 1-800-248-7763

Manufacturer

• 1-800-424-9300 - CHEMTREC

Manufacturer

• 1-703-527-3887 - CHEMTREC - Outside North America - Collect Calls Accepted

Section 2: Hazard Identification

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012

• Eye Mild Irritation 2B
Combustible Dust
Carcinogenicity 1A

Label elements

OSHA HCS 2012

DANGER



Hazard statements • May form combustible dust concentrations in air.
 Causes eye irritation
 May cause cancer.

Precautionary statements

Prevention • Wash thoroughly after handling.
 Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Wear protective gloves/protective clothing/eye protection/face protection.

Response • IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 If eye irritation persists: Get medical advice/attention.
 IF exposed or concerned: Get medical advice/attention.

Storage/Disposal • Store locked up.
 Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Supplemental information • The finished product is not considered carcinogenic because of the product's physical form. The Hazard Statement "May Cause Cancer" is presented because a component of this product contains a naturally occurring trace amount of crystalline silica (quartz) which is classified as carcinogenic to humans if inhaled. Respiratory exposure to silica dust from the finished product is not expected to occur under normal conditions of use due to the manner in which the constituents are bound or packaged in water soluble pouches. The crystalline silica in the finished product is unlikely to pose personal exposure via inhalation.

Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Section 3 Composition/Information on Ingredients

Substances

- Material does not meet the criteria of a substance.

Mixtures

Composition		
Chemical Name	Identifiers	%
(s)-Methoprene	CAS:65733-16-6	4.25%
Plaster of paris	CAS:26499-65-0	69.16%
Silica, crystalline - quartz	CAS:14808-60-7	0.7%
Activated Carbon	CAS:7440-44-0	9.26%
Other ingredients	NDA	16.63%

Section 4: First-Aid Measures

Description of first aid measures

Inhalation

- IF INHALED: If breathing is difficult, remove person to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms occur.

Skin

- IF ON SKIN: Wash with plenty of soap and water. If irritation or rash occurs, get

- medical advice/attention. Wash contaminated clothing before reuse.
- Eye**
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison control center or doctor for treatment advice.
- Ingestion**
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended.

Most important symptoms and effects, both acute and delayed

- Causes eye irritation, may cause cancer. Refer to Section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed

- Notes to Physician**
- Treat symptomatically and supportively.

Section 5: Fire-Fighting Measures

Extinguishing media

Suitable Extinguishing Media • Water fog, fine water spray, carbon dioxide or foam.

Unsuitable Extinguishing Media

- Avoid heavy hose streams.

Firefighting Procedures

- Do not allow fire fighting water to escape into waterways or sewers. Combustible dust - use low-pressure medium fog streams to avoid dust clouds.

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards

- Combustible Dust.
Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Hazardous Combustion Products

- Carbon monoxide and carbon dioxide.

Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions

- Wear appropriate personal protective equipment, avoid direct contact. Keep all sources of ignition away and avoid creating dusty conditions. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not walk through spilled material. Ventilate enclosed areas.

Emergency Procedures

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Contain spill and monitor for excessive dust accumulation. Keep unauthorized personnel away. Ventilate closed spaces before entering.

Environmental precautions

- Avoid run off to waterways and sewers.

Methods and material for containment and cleaning up

Containment/Clean-up Measures

- Carefully shovel or sweep up spilled material and place in suitable container. Use clean non-sparking tools to collect absorbed material. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
Wear appropriate personal protective equipment, avoid direct contact.

Section 7 Handling and Storage

Precautions for safe handling

Handling

- Avoid contact with skin, eyes, and clothing. Wear appropriate personal protective equipment, avoid direct contact. Do not use in areas without adequate ventilation. Take precautionary measures against static charges. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

Conditions for safe storage, including any incompatibilities

Storage

- Store in cool, dry area, inaccessible to children. Store at temperatures not exceeding 90°F. Store away from heat or open flame. Store locked up.

Incompatible Materials or Ignition Sources

- Heat, sparks, open flame. Strong acids, strong bases, and oxidizing agents.

Section 8 Exposure Controls/Personal Protection

Control parameters

- Exposure Limits/Guidelines** • It is recommended that dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment.

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
Silica, crystalline - quartz (14808607)	TWAs	0.025 mg/m ³ TWA (respirable particulate matter)	0.05 mg/m ³ TWA (respirable dust)	50 µg/m ³ TWA
Plaster of paris (26499650)	TWAs	Not established	10 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable dust)	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)

Exposure Limits Supplemental OSHA

- Silica, crystalline - quartz (14808607): **Mineral Dusts:** ((30)/(%SiO₂ + 2) mg/m³ TWA, total dust; (250)/(%SiO₂ + 5) mppcf TWA, respirable fraction; (10)/(%SiO₂ + 2) mg/m³ TWA, respirable fraction)

Exposure controls

Engineering Measures/Controls

- Ensure that dust handling systems (such as exhaust ducts, dust collectors, vessels and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is not leakage from the equipment). Local exhaust ventilation.

Personal Protective Equipment Pictograms



Respiratory

- Follow the OSHA respirator regulations found in 29 CFR 1910.134. Use a NIOSH/MSHA approved respirator if nuisance dust exposure limits are exceeded or symptoms are experienced.

Eye/Face

- Wear safety glasses.

Hands

- Wear appropriate gloves.

Skin/Body

- If prolonged exposure is anticipated, it is recommended for handlers to wear appropriate clothing to prevent skin contact.

General Industrial Hygiene Considerations

- Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Environmental Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	Dark gray to black rod-shaped pellets.
Color	Dark gray to black.	Odor	Slight hydrocarbon.
Odor Threshold	No data available		
General Properties			
Boiling Point	No data available	Melting Point/Freezing Point	No data available
Decomposition Temperature	No data available	pH	Not relevant
Specific Gravity/Relative Density	No data available	Bulk Density	59 to 60 lb(s)/ft ³
Water Solubility	Insoluble	Viscosity	Not relevant
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		
Flammability			
Flash Point	Not relevant	UEL	No data available
LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	No data available		
Environmental			
Octanol/Water Partition	No data available		

Section 10: Stability and Reactivity

Reactivity

- This material is friable and can create small dust particles during any handling, processing, and transfer operations. This material can form explosive dust/air suspensions that are ignitable under some conditions.

Chemical stability

- Stable under normal temperatures and pressures.

Possibility of hazardous reactions

- Hazardous polymerization will not occur. May form combustible dust concentrations in the air.

Conditions to avoid

- Heat, sparks, open flame, other ignition sources, and oxidizing conditions. Strong oxidizers.

Incompatible materials

- Heat, strong acids, strong bases and oxidizing agents.

Hazardous decomposition products

- Carbon monoxide and carbon dioxide.

Section 11 - Toxicological Information

Information on toxicological effects

CAS	
-----	--

Zoecon Altosid Pellets

NDA

Acute Toxicity: Ingestion/Oral-Rat LD50 • >5100 mg/kg; Skin-Rabbit LD50 • >2100 mg/kg; **Irritation:** Eye-Rabbit • Mild irritation; Skin-Rabbit • Essentially nonirritating

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • Acute Toxicity - Dermal - Classification criteria not met; Acute Toxicity - Inhalation - Classification criteria not met; Acute Toxicity - Oral Classification criteria not met
Aspiration Hazard	OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	OSHA HCS 2012 • Carcinogenicity 1A
Germ Cell Mutagenicity	OSHA HCS 2012 • Not classified - data lacking
Skin corrosion/Irritation	OSHA HCS 2012 • Classification criteria not met
Skin sensitization	OSHA HCS 2012 • Classification criteria not met
STOT-RE	OSHA HCS 2012 • Classification criteria not met
STOT-SE	OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	OSHA HCS 2012 • Classification criteria not met
Respiratory sensitization	OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	OSHA HCS 2012 • Eye Mild Irritation 2B

Potential Health Effects

Inhalation

Acute (Immediate)

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- Exposure to respirable crystalline silica is not expected during normal use of this product. However, prolonged overexposure to respirable crystalline silica may cause lung disease (silicosis).

Skin

Acute (Immediate)

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- No data available.

Eye

Acute (Immediate)

- Causes eye irritation.

Chronic (Delayed)

- No data available

Ingestion

Acute (Immediate)

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- No data available

Other

Chronic (Delayed)

- No data available.

Carcinogenic Effects

- Exposure to respirable crystalline silica dust from the finished product is not expected to occur due to the manner in which the constituents are bound, thus the finished product is not considered carcinogenic under conditions of normal use.

Section 12 - Ecological Information

Toxicity

Component	CAS	Data
-----------	-----	------

(s)-Methoprene
(4.25%)

65733166

Crustacea: NOEC Crustacea 0.014 mg/L [Chronic]; 48 Hour(s) LC50 Crustacea 0.36 mg/L [Acute];
Fish: 96 Hour(s) LC50 Fish 0.76 mg/L [Acute]; 96 Hour(s) LC50 Fish 0.37 mg/L [Acute]; NOEC Fish
 0.048 mg/L [Chronic]

Persistence and degradability

- No data available

Bioaccumulative potential

- No data available

Mobility in Soil

- No data available

Other adverse effects

- No studies have been found.

Section 13 Disposal Considerations

Waste treatment methods

Product waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 Transport Information

	UN number	UN proper shipping name	Transport hazard class (es)	Packing group	Environmental hazards
DOT	N/A	Not regulated	N/A	N/A	N/A
IMO/IMDG	N/A	Not regulated	N/A	N/A	N/A
IATA/ICA	N/A	Not regulated	N/A	N/A	N/A

Special precautions for user • None specified.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • No data available

Other information

IMO/IMDG • No data available

IATA/ICAO • No data available

Key to abbreviations

= N/A = Not applicable.

Section 15 Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Acute

FIFRA – Pesticide Labeling

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal

pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION

Hazard Statements • KEEP OUT OF REACH OF CHILDREN

Precautionary Statements

Hazards to Humans and Domestic Animals • HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling.

First Aid • Call a poison control center or doctor for treatment advice. If in eyes • Hold eye open and rinse slowly and gently with water for 1520 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. If on skin or clothing • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 1520 minutes.

Environmental Hazards • Do not contaminate water when disposing of risate or equipment wash waters.

Inventory		
Component	CAS	TSCA
(s)-Methoprene	65733166	No
Activated Carbon	7440440	Yes
Plaster of paris	26499650	No
Silica, crystalline - quartz	14808607	Yes

Section 16 Other Information

Revision Date • 31/May/2017
Last Revision Date • 22/July/2015
Preparation Date • 22/June/2015

Disclaimer/Statement of Liability • The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.

Revision Statement: Section 1 Revised



Altosid[®] SBG II

SINGLE BROOD GRANULE



- PREVENTS ADULT MOSQUITO EMERGENCE WHEN APPLIED PRE OR POST-HATCH
(including those which may transmit West Nile virus)

SPECIMEN LABEL

ACTIVE INGREDIENT:

(S)-Methoprene (CAS# 65733-16-6)..... 0.3%

OTHER INGREDIENTS:..... 99.7%

TOTAL 100.0%

EPA Reg. No. 75318-8-89459 EPA Est. No. 2724-TX-1

KEEP OUT OF REACH OF CHILDREN

CAUTION

See additional Precautions

PRECAUTIONARY STATEMENTS – HAZARDS TO HUMANS & DOMESTIC ANIMALS CAUTION

Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

FIRST AID

If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-248-7763 for emergency medical treatment information.

ENVIRONMENTAL HAZARDS

Do not contaminate water when disposing of rinsate or equipment washwaters.

INTRODUCTION

ALTOSID[®] SBG II Single Brood Granule (ALTOSID[®] SBG II) slowly releases effective levels of (S)-methoprene insect growth regulator to prevent the emergence of adult mosquitoes from treated sites. Apply **Altosid[®] SBG II** up to 7 days prior to flooding (i.e. "pre-hatch") in known mosquito breeding areas, or post-hatch to sites containing mosquito larvae.

Treated larvae continue to develop normally to the pupal stage where they die. **Altosid[®] SBG II** prevents the emergence of adult mosquitoes from treated sites.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling

APPLICATION DIRECTIONS

ALTOSID[®] SBG II is designed to control single broods of mosquito larvae in water depths up to 15 inches. Under typical environmental conditions, one application will control for up to 7 days. Applications can be made pre-hatch to known mosquito breeding areas, or post-hatch to sites containing mosquito larvae. Pre-hatch treatments should be applied in the low areas of breeding sites to maintain continuous control as the site floods and dries. Repeat application cycle throughout the mosquito season.

NOTE: The active ingredient (S)-methoprene has no effect on mosquitoes that have reached the pupal or adult stage prior to treatment.





APPLICATION RATES

Select the target mosquito species and corresponding application rate per acre.

Aedes, Ochlerotatus, Anopheles and Psorophora spp.:

- Apply **Altosid® SBG II** at 3 – 7 lbs per acre

Culex and Culiseta spp.:

- Apply **Altosid® SBG II** at 10 – 20 lbs per acre

For smaller application sites, apply **Altosid® SBG II** at 0.35 oz to 0.70 oz per 100 square feet of water surface.

APPLICATION SITES

Apply **Altosid® SBG II** treatments pre-hatch or post-hatch as directed above to temporary and permanent water sites which support mosquito larval development. Examples of typical sites are: freshwater and salt water marshes, cattail marshes, woodland pools and meadows, grassy swales, floodplains, irrigated croplands, pastures and rangeland (without removal of livestock), vineyards, rice fields (including wild rice), fruit and nut orchards, berry fields and bogs, dredge spoil sites, storm water retention basins, storm drains, retention and detention ponds, drainage areas, roadside ditches, tree holes, tires, water-holding receptacles, ornamental ponds and fountains, animal watering troughs and ponds, fish ponds, flooded crypts, transformer vaults, abandoned swimming pools, artificial water-holding containers, and other natural and manmade depressions where mosquitoes may breed.

NOTE: Application of **Altosid® SBG II** to sites subject to water flow or exchange will diminish the product's effectiveness.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage and disposal.

PESTICIDE STORAGE: Store in a cool, dry place.

PESTICIDE DISPOSAL: Wastes resulting from this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING: Nonrefillable container. Do not reuse or refill this container. Completely empty bag. Then offer for recycling if available or dispose of empty bag in trash or in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

WARRANTY AND CONDITIONS OF SALE

Seller makes no warranty, express or implied, concerning the use and handling of this product other than indicated on the label. To the fullest extent permitted by law, buyer assumes all risks of use and handling of this material when such use and handling are contrary to label instructions.

Always read the label before using this product.

For information or in case of an emergency, call 1-800-248-7763.

www.altosid.com

Manufactured for:

Central Garden & Pet Company

1501 East Woodfield Road 200W
Schaumburg, Illinois 60173

U.S. Patent Pending
ALTOSID and ZOËCON with design are
registered trademarks of Wellmark International.
©2006, 2014 Wellmark International.

February, 2014
Schaumburg, IL

VEC 14-010



Safety Data Sheet

Section 1: Identification

Product identifier

Product Name

- **Altosid SBG II Single Brood Granule**

Synonyms

- (s)-methoprene; 100518214; 100518222; B2E-08; EPA Reg. No. 75318-8-89459; Isopropyl(2E, 4E, 7S)-11-methoxy-3,7,11-trimethyl-2,4-dodecadienoate; Zoecon Altosid SBG II Single Brood Granule

Product Description

- Gray to sand colored granules.

Relevant identified uses of the substance or mixture and uses advised against

Recommended use

- Insect growth regulator; Pesticide

Restrictions on use

- Avoid contact with skin and eyes. Do not take internally. KEEP OUT OF THE REACH OF CHILDREN

Details of the supplier of the safety data sheet

Manufacturer

- Central Garden & Pet Company
1501 E. Woodfield Road, Suite 200W
Schaumburg, IL 60173
United States

Emergency telephone number

Manufacturer (Transportation) • 1-800-424-9300 - CHEMTREC

Manufacturer (Transportation) • 1-703-527-3887 - CHEMTREC - outside North America - Collect Calls Accepted

Manufacturer • 1-800-248-7763

Section 2: Hazard Identification

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012

- Carcinogenicity 1A
Specific Target Organ Toxicity Repeated Exposure 1

Label elements

OSHA HCS 2012

DANGER



- Hazard statements** • Causes damage to organs - Lungs, Silicosis through prolonged or repeated exposure via Inhalation
May cause cancer.

Precautionary statements

- Prevention** • Do not eat, drink or smoke when using this product.
Do not handle until all safety precautions have been read and understood.
Obtain special instructions before use.
Wash thoroughly after handling.
Avoid breathing dust, fume, gas, mist, vapors and/or spray.
Wear protective gloves.
Wear protective gloves/protective clothing/eye protection/face protection.
- Response** • Get medical advice/attention if you feel unwell.
IF exposed or concerned: Get medical advice/attention.
- Storage/Disposal** • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
Store locked up.

- Supplemental information** • The finished product is not considered carcinogenic because of the product's physical form. The Hazard Statement "May Cause Cancer" is presented because a component of this product contains a naturally occurring trace amount of crystalline silica (quartz) which is classified as carcinogenic to humans if inhaled. Respiratory exposure to silica dust from the finished product is not expected to occur under normal conditions of use due to the manner in which the constituents are bound. The crystalline silica in the finished product is unlikely to pose personal exposure via inhalation in light of studies conducted that indicate there is minimal liberation of particulates from the product during extreme handling or transport.

Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Section 3 - Composition/Information on Ingredients

Substances

- Material does not meet the criteria of a substance.

Mixtures

Composition		
Chemical Name	Identifiers	%
(s)-Methoprene	CAS:65733-16-6	0.3%
Silica, crystalline - quartz	CAS:14808-60-7	99%
Non hazardous ingredients	NDA	< 1%

Section 4: First-Aid Measures

Description of first aid measures

Inhalation

- IF INHALED: If breathing is difficult, remove person to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms persist.

Skin

- IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

- Eye**
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Ingestion**
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended.

Most important symptoms and effects, both acute and delayed

- May cause cancer, causes damage to organs - lungs. Refer to Section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed

- Notes to Physician**
- Treat symptomatically and supportively.

Section 5: Fire-Fighting Measures

Extinguishing media

- Suitable Extinguishing Media**
- Use water fog, foam, carbon dioxide, or dry chemical.

- Unsuitable Extinguishing Media**
- No data available

- Firefighting Procedures**
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Keep unauthorized personnel away.
LARGE FIRES: Do not scatter spilled material with high pressure water streams.
LARGE FIRES: Move containers from fire area if you can do it without risk.
Do not allow fire fighting water to escape into waterways or sewers.

Special hazards arising from the substance or mixture

- Unusual Fire and Explosion Hazards**
- None known.

- Hazardous Combustion Products**
- None known.

Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

- Personal Precautions**
- Do not walk through spilled material. Use appropriate Personal Protective Equipment (PPE). Avoid contact with skin, eyes, and clothing.

- Emergency Procedures**
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Use normal clean up procedures.

Environmental precautions

- Avoid run off to waterways and sewers.

Methods and material for containment and cleaning up

- Containment/Clean-up Measures**
- SMALL DRY SPILLS: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

Section 7 - Handling and Storage

Precautions for safe handling

- Handling**
- Avoid contact with skin or eyes. Avoid breathing dust.

Conditions for safe storage, including any incompatibilities

- Storage**
- Store closed containers in a cool dry place. Do not contaminate water, food or feed by

storage or disposal. Store locked up.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure controls

Engineering

Measures/Controls

- No data available.

Personal Protective Equipment

Pictograms



Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/Face

- Wear protective eyewear (goggles, face shield, or safety glasses).

Hands

- Wear appropriate gloves.

Skin/Body

- If prolonged exposure is anticipated, it is recommended for handlers to wear appropriate clothing to prevent skin contact.

General Industrial Hygiene Considerations

- Do not get in eyes or on skin or clothing. Handle in accordance with good industrial hygiene and safety practice.

Environmental Exposure Controls

- No data available.

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	granules
Color	Gray to sand.	Odor	No data available
Odor Threshold	No data available		
General Properties			
Boiling Point	Not relevant	Melting Point/Freezing Point	No data available
Decomposition Temperature	No data available	pH	Not relevant
Specific Gravity/Relative Density	= 2.4 @ 20 C(68 F) Water=1	Bulk Density	approximately 100 lb/cu ft.
Water Solubility	practically insoluble	Viscosity	Not relevant
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		
Flammability			
Flash Point	Not relevant	UEL	No data available
LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	No data available		
Environmental			
Octanol/Water Partition coefficient	No data available		

Section 10: Stability and Reactivity

Reactivity

- Non-reactive

Chemical stability

- Stable

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- No data available.

Incompatible materials

- None known.

Hazardous decomposition products

- No data available

Section 11 - Toxicological Information

Information on toxicological effects

Components		
(s)-Methoprene (0.3%)	65733-16-6	Acute Toxicity: Ingestion/Oral-Rat LD50 • >34000 mg/kg • Comments: Based on (S)-Methoprene; Inhalation-Rat LC50 • >5.19 mg/L • Comments: Based on (S)-Methoprene; Skin-Rabbit LD50 • >5000 mg/kg; Irritation: Eye-Rabbit • Essentially non-irritating; Skin-Rabbit • Essentially non-irritating

GHS Properties	Classification
Respiratory sensitization	OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	OSHA HCS 2012 • Classification criteria not met
Acute toxicity	OSHA HCS 2012 • Acute Toxicity - Classification criteria not met
Aspiration Hazard	OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	OSHA HCS 2012 • Carcinogenicity 1A
Skin corrosion/Irritation	OSHA HCS 2012 • Classification criteria not met
Skin sensitization	OSHA HCS 2012 • Classification criteria not met
STOT-RE	OSHA HCS 2012 • Specific Target Organ Toxicity Repeated Exposure 1
STOT-SE	OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	OSHA HCS 2012 • Classification criteria not met
Germ Cell Mutagenicity	OSHA HCS 2012 • Classification criteria not met

Potential Health Effects

Inhalation

Acute (Immediate)

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- Exposure to respirable crystalline silica is not expected during normal use of this product. However, prolonged overexposure to respirable crystalline silica may cause lung disease (silicosis).

Skin

Acute (Immediate)

- Exposure to dust may cause mechanical irritation. Under normal conditions of use, no health effects are expected.

- Chronic (Delayed)**
 - No data available
- Eye**
- Acute (Immediate)**
 - Exposure to dust may cause mechanical irritation. Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)**
 - No data available
- Ingestion**
- Acute (Immediate)**
 - Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)**
 - No data available
- Carcinogenic Effects**
 - Exposure to respirable crystalline silica dust from the finished product is not expected to occur due to the manner in which the constituents are bound, thus the finished product is not considered carcinogenic under conditions of normal use.

Section 12 - Ecological Information

Toxicity

Component	CAS	Data
(s)-Methoprene (0.3%)	65733-16-6	Crustacea: NOEC Crustacea <i>Mysid Shrimp</i> 0.014 mg/L [Chronic]; 48 Hour(s) LC50 Crustacea <i>Daphnia</i> 0.36 mg/L [Acute]; Fish: 96 Hour(s) LC50 Fish <i>Rainbow Trout</i> 0.76 mg/L [Acute]; 96 Hour(s) LC50 Fish <i>Bluegill</i> >0.37 mg/L [Acute]; NOEC Fish <i>Fathead Minnow</i> 0.048 mg/L [Chronic]

Persistence and degradability

- No data available.

Bioaccumulative potential

- No data available.

Mobility in Soil

- 10-14 days, rapidly hydrolyzed in soil.

Other adverse effects

Ecological Fate

- Not hydrolyzed up to 30 days.

Potential Environmental Effects

- Toxic to freshwater fish and invertebrates.

Section 13 - Disposal Considerations

Waste treatment methods

Product waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. Do not contaminate water when disposing of equipment washwaters or rinsate.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class (es)	Packing group	Environmental hazards
DOT	Not Applicable	Not Regulated	Not Applicable	Not Applicable	Not Applicable
IMO/IMDG	Not Applicable	Not Regulated	Not Applicable	Not Applicable	Not Applicable

IATA/ICAO	Not Applicable	Not Regulated	Not Applicable	Not Applicable	Not Applicable
-----------	----------------	---------------	----------------	----------------	----------------

Special precautions for user • No data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • No data available

Other information

IMO/IMDG • No data available

IATA/ICAO • No data available

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Chronic

FIFRA – Pesticide Labeling

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.
Keep out of reach of children.

Precautionary Statements • KEEP OUT OF THE REACH OF CHILDREN

Hazards to Humans and Domestic Animals • Hazards to Humans and Domestic Animals: Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

First Aid • IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present after the first 5 minutes, then continue rinsing eye. Call poison control center or doctor for treatment advice. IF ON SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

Environmental Hazards • Do not contaminate water when disposing of equipment wash waters.

Inventory		
Component	CAS	TSCA
(s)-Methoprene	65733-16-6	No
Silica, crystalline - quartz	14808-60-7	Yes

Section 16 - Other Information

Revision Summary		
Revision Date	MSDS Number	Changes
17/August/2015		• Section 11 statements changed.

Revision Date • 17/August/2015

Last Revision Date

- 05/June/2014

Preparation Date

- 21/February/2014

Disclaimer/Statement of Liability

- The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IF MADE.
-



Altosid[®] XR EXTENDED RESIDUAL BRIQUETS

**A SUSTAINED RELEASE PRODUCT TO PREVENT ADULT MOSQUITO EMERGENCE
(INCLUDING THOSE WHICH MAY TRANSMIT WEST NILE VIRUS)**

SPECIMEN LABEL

ACTIVE INGREDIENT:

(S)-Methoprene (CAS #65733-16-6)
(Dry Weight Basis): 2.1%

OTHER INGREDIENTS: 97.9%
Total. 100.0%

EPA Reg. No. 2724-421

EPA Est. No. 2724-TX-1

KEEP OUT OF REACH OF CHILDREN
CAUTION
SEE ADDITIONAL PRECAUTIONARY STATEMENTS

INTRODUCTION

ALTOSID[®] XR BRIQUETS are designed to release effective levels of (S)-Methoprene insect growth regulator over a period up to 150 days in mosquito breeding sites. Release of (S)-Methoprene insect growth regulator occurs by dissolution of the briquet. Soft mud and loose sediment can cover the briquets and inhibit normal dispersion of the active ingredient. The product may not be effective in those situations where the briquet can be removed from the site by flushing action.

ALTOSID[®] XR BRIQUETS prevent the emergence of adult mosquitoes including: *Anopheles*, *Culex*, *Culiseta*, *Coquillettidia*, and *Mansonia* spp., as well as those of the floodwater mosquito complex (*Aedes*, *Ochlerotatus*, and *Psorophora* spp.) from treated water. Treated larvae continue to develop normally to the pupal stage where they die.

NOTE: (S)-Methoprene insect growth regulator has no effect on mosquitoes which have reached the pupal or adult stage prior to treatment.

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC
ANIMALS - CAUTION**

Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling.

FIRST AID	
Call a poison control center or doctor for treatment advice.	
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-248-7763 for emergency medical treatment information.	

ENVIRONMENTAL HAZARDS

Do not contaminate water when disposing of unused product.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

APPLICATION TIME

Place **ALTOSID® XR BRIQUETS** at or before the beginning of the mosquito season. Apply **ALTOSID® XR BRIQUETS** prior to flooding when sites are dry, or on snow and ice in breeding sites prior to spring thaw. Under normal conditions, one application will last the entire mosquito season, or up to 150 days, whichever is shorter. Alternate wetting and drying will not reduce their effectiveness.

APPLICATION RATES

Aedes, Ochlerotatus, and Psorophora spp.: For control in non-(or low-) flow shallow depressions (≤ 2 feet in depth), treat on the basis of surface area, placing one **ALTOSID® XR BRIQUET** per 200 ft². Place briquets in the lowest areas of mosquito breeding sites to maintain continuous control as the site alternately floods and dries up.

Culex, Culiseta and Anopheles spp.: Place one **ALTOSID® XR BRIQUET** per 100 ft².

Coquillettidia and Mansonia spp.: For application to cattail marshes and water hyacinth beds. For control of these mosquitoes, place one **ALTOSID® XR BRIQUET** per 100 ft².

Culex sp. in storm water drainage areas, sewers, and catch basins: For catch basins, place one **ALTOSID® XR BRIQUET** into each basin. In cases of large catch basins, follow the chart below to determine the number of briquets to use. For storm water drainage areas, place one briquet per 100 ft² of surface area up to two ft deep. In areas that are deeper than two feet, use one additional briquet per two feet of water depth.

Water flow pressure increases the potential dissolution of the briquet. Conduct regular inspections (visual or biological) in areas of water flow to determine if the briquet is still present. Adjust the retreatment interval based on the results of an inspection.

ALTOSID® XR BRIQUETS Application Chart

Number of Briquets	Catch Basin Size (Gallons)	Surface Area/Water Depth (ft)
1	0 – 1500	0 – 2
2	1500 – 3000	2 – 4
3	3000 – 4500	4 – 6
4	4500 – 6000	6 – 8

APPLICATION SITES

ALTOSID® XR BRIQUETS are designed to control mosquitoes in treated areas. Examples of application sites are: storm drains, catch basins, roadside ditches, fish ponds, ornamental ponds and fountains, other artificial water-holding containers, animal watering troughs, cesspools and septic tanks, waste treatment and settling ponds, flooded crypts, transformer vaults, abandoned swimming pools, tires, construction and other manmade depressions, cattail marshes, water hyacinth beds, vegetation-choked phosphate pits, pastures, meadows, rice fields, freshwater swamps and marshes, salt and tidal marshes, treeholes, woodland pools, floodplains, and dredging spoil sites. For application sites connected by a water system, i.e., storm drains or catch basins, treat all of the water-holding sites in the system to maximize the efficiency of the treatment program.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

STORAGE: Store in a cool place. Do not reuse empty container.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling, if available, or dispose of empty container in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

WARRANTY AND CONDITIONS OF SALE

Seller makes no warranty, expressed or implied, concerning the use and handling of this product other than indicated on the label. To the extent permitted by law, Buyer assumes all risks of use and handling of this material when such use and handling are contrary to label instructions.

For information, or in case of an emergency, call 1-800-248-7763.

www.altosid.com

Wellmark International
1501 East Woodfield Road 200W
Schaumburg, Illinois 60173



ALTOSID, ZOECON and the ZOECON logo are registered trademarks of Wellmark International.
©2005-2010 WELLMARK INTERNATIONAL
Made in USA

May, 2010
Schaumburg, IL



Safety Data Sheet

Section 1: Identification

Product identifier

Product Name

- **Zoecon Altosid XR Extended Residual Briquets**

Synonyms

- 100508841; 100508842; 100508843; 100508845; 100508846; EPA Reg. No.: 2724-421; ProLink XR Extended Release Briquets; Zoecon RF-292 Briquet

Product Description

- White to gray briquet.

Relevant identified uses of the substance or mixture and uses advised against

Recommended use

- Insect growth regulator.

Restrictions on use

- Avoid contact with eyes, skin or clothing. Keep out of reach of children.

Details of the supplier of the safety data sheet

Manufacturer

- Wellmark International
1501 E. Woodfield Road, Suite 200 West
Schaumburg, IL 60173
United States
www.centralmosquitocontrol.com

Emergency telephone number

Manufacturer

- 1-800-424-9300 - CHEMTREC

Manufacturer

- 1-703-527-3887 - CHEMTREC - Outside North America - Collect Calls Accepted

Manufacturer

- 1-888-914-2082

Section 2: Hazard Identification

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012

- Carcinogenicity 1A
Eye Mild Irritation 2B

Label elements

OSHA HCS 2012

DANGER



Hazard statements • May cause cancer.
Causes eye irritation

Precautionary statements

Prevention • Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not handle until all safety precautions have been read and understood.
Obtain special instructions before use.

Response • IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF exposed or concerned: Get medical advice/attention.

Storage/Disposal • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
Store locked up.

Supplemental information • The finished product is not considered carcinogenic because of the product's physical form. The Hazard Statement "May Cause Cancer" is presented because a component of this product contains a naturally occurring trace amount of crystalline silica (quartz) which is classified as carcinogenic to humans if inhaled. Respiratory exposure to silica dust from the finished product is not expected to occur under normal conditions of use due to the manner in which the constituents are bound. The crystalline silica in the finished product is unlikely to pose personal exposure via inhalation.

Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Section 3 - Composition/Information on Ingredients

Substances

- Material does not meet the criteria of a substance.

Mixtures

Composition		
Chemical Name	Identifiers	%
(s)-Methoprene	CAS:65733-16-6	2.1%
Plaster of paris	CAS:26499-65-0	> 80.88%
Silica, crystalline - quartz	CAS:14808-60-7	< 0.82%
Other ingredients	NDA	< 17.02%

Section 4: First-Aid Measures

Description of first aid measures

Inhalation

- IF INHALED: If breathing is difficult, remove person to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin

- IF ON SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. If skin irritation occurs: Get medical advice/attention.

Eye

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

- Ingestion**
- IF SWALLOWED: call a poison center or doctor if you feel unwell. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center.

Most important symptoms and effects, both acute and delayed

- Causes eye irritation, may cause cancer.

Indication of any immediate medical attention and special treatment needed

- Notes to Physician**
- Treat symptomatically and supportively.

Section 5: Fire-Fighting Measures

Extinguishing media

- Suitable Extinguishing Media**
- SMALL FIRES: Dry chemical, CO₂, water spray or regular foam.
LARGE FIRE: Water spray, fog or regular foam.

- Unsuitable Extinguishing Media**
- Avoid heavy hose streams.

- Firefighting Procedures**
- Keep unauthorized personnel away.
LARGE FIRES: Dike fire control water for later disposal; do not scatter the material. Stay upwind.
Ventilate closed spaces before entering.

Special hazards arising from the substance or mixture

- Unusual Fire and Explosion Hazards**
- No data available.

- Hazardous Combustion Products**
- Non-combustible, substance itself does not burn but may decompose upon heating to produce toxic fumes which may include carbon oxides, smoke fumes, unburned hydrocarbons and terpenes.

Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

- Personal Precautions**
- Avoid contact with skin, eyes, and clothing. Use appropriate Personal Protective Equipment (PPE). Ventilate enclosed areas. Do not walk through spilled material. Avoid dust formation and breathing dust.

- Emergency Procedures**
- Stay upwind. Ventilate closed spaces before entering. Avoid release into the environment. Do not allow runoff into water, storm drains or drainage ditches.

Environmental precautions

- Contain and prevent from release into any waterway, sewer or drain.

Methods and material for containment and cleaning up

- Containment/Clean-up Measures**
- Use appropriate Personal Protective Equipment (PPE)
Sweep up material and place in suitable container for disposal.

Section 7 - Handling and Storage

Precautions for safe handling

- Handling**
- Wash hands thoroughly with soap and water after handling. Read label before use. Avoid contact with skin or eyes. Avoid breathing dust.

Conditions for safe storage, including any incompatibilities

- Storage**
- Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in cool, dry area, inaccessible to children. Store only in original container.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure Limits/Guidelines • No data available.

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
Silica, crystalline - quartz (14808-60-7)	TWAs	0.025 mg/m ³ TWA (respirable fraction)	0.05 mg/m ³ TWA (respirable dust)	Not established
Plaster of paris (26499-65-0)	TWAs	Not established	10 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable dust)	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)

Exposure Limits Supplemental

OSHA

•Silica, crystalline - quartz (14808-60-7): **Mineral Dusts:** ((30)/(%SiO₂ + 2) mg/m³ TWA, total dust; (250)/(%SiO₂ + 5) mppcf TWA, respirable fraction; (10)/(%SiO₂ + 2) mg/m³ TWA, respirable fraction)

Exposure controls

Engineering Measures/Controls

- Use adequate ventilation to remove vapors (fumes, dust etc)

Personal Protective Equipment

Pictograms



Respiratory

- If prolonged exposure is anticipated, it is recommended for handlers to wear an approved MSHA/NIOSH dust mask N-95.

Eye/Face

- Wear safety glasses.

Hands

- Wear appropriate gloves.

Skin/Body

- If prolonged exposure is anticipated, it is recommended for handlers to wear appropriate clothing to prevent skin contact.

General Industrial Hygiene Considerations

- Avoid contact with skin, eyes or clothing.

Environmental Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	White to gray briquet.
Color	White to gray.	Odor	Slight hydrocarbon.
Odor Threshold	No data available		
General Properties			
Boiling Point	No data available	Melting Point/Freezing Point	No data available
Decomposition Temperature	No data available	pH	Not relevant
Specific Gravity/Relative Density	1.04 g/cc (64.9 lb/ft ³)	Water Solubility	No data available
Viscosity	Not relevant		

Volatility

Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		

Flammability

Flash Point	Not relevant	UEL	No data available
LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	No data available		

Environmental

Octanol/Water Partition coefficient	No data available		
-------------------------------------	-------------------	--	--

Section 10: Stability and Reactivity**Reactivity**

- No dangerous reaction known under conditions of normal use.

Chemical stability

- Stable

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- No data available.

Incompatible materials

- No data available.

Hazardous decomposition products

- Non-combustible, substance itself does not burn but may decompose upon heating to produce toxic fumes which may include carbon oxides, smoke, unburned hydrocarbons and terpenes.

Section 11 - Toxicological Information**Information on toxicological effects**

	CAS	
Zoecon Altosid XR Extended Residual Briquets	NDA	Acute Toxicity: Ingestion/Oral-Rat LD50 • >5100 mg/kg; Skin-Rabbit LD50 • >2100 mg/kg; Irritation: Eye-Rabbit • Mild irritation; Skin-Rabbit • Mild irritation

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • Acute Toxicity - Dermal - Classification criteria not met; Acute Toxicity - Inhalation - Classification criteria not met; Acute Toxicity - Oral - Classification criteria not met
Aspiration Hazard	OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	OSHA HCS 2012 • Carcinogenicity 1A
Germ Cell Mutagenicity	OSHA HCS 2012 • Not classified - data lacking
Skin corrosion/Irritation	OSHA HCS 2012 • Classification criteria not met
Skin sensitization	OSHA HCS 2012 • Classification criteria not met

STOT-RE	OSHA HCS 2012 • Classification criteria not met
STOT-SE	OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	OSHA HCS 2012 • Classification criteria not met
Respiratory sensitization	OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	OSHA HCS 2012 • Eye Mild Irritation 2B

Route(s) of entry/exposure • Inhalation, Ingestion, Eyes, and Skin

Potential Health Effects

Inhalation

Acute (Immediate)

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- Exposure to respirable crystalline silica is not expected during normal use of this product. However, prolonged overexposure to respirable crystalline silica may cause lung disease (silicosis).

Skin

Acute (Immediate)

- May cause mild irritation.

Chronic (Delayed)

- No data available.

Eye

Acute (Immediate)

- Causes mild eye irritation.

Chronic (Delayed)

- No data available.

Ingestion

Acute (Immediate)

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- No data available.

Carcinogenic Effects

- Exposure to respirable crystalline silica dust from the finished product is not expected to occur due to the manner in which the constituents are bound, thus the finished product is not considered carcinogenic under conditions of normal use.

Section 12 - Ecological Information

Toxicity

Component	CAS	Data
(s)-Methoprene (2.1%)	65733-16-6	Crustacea: NOEC Crustacea <i>Mysid shrimp</i> 0.014 mg/L [Chronic]; 96 Hour(s) LC50 Crustacea <i>Mysid shrimp</i> 0.11 mg/L [Acute]; 48 Hour(s) LC50 Crustacea <i>Daphnia magna</i> 0.36 mg/L [Acute]; Fish: 96 Hour(s) LC50 Fish <i>Rainbow Trout</i> 0.76 mg/L [Acute]; 96 Hour(s) LC50 Fish <i>Blue Gill</i> >0.37 mg/L [Acute]; NOEC Fish <i>Fathead minnow</i> 0.048 mg/L [Chronic]

Persistence and degradability

- No data available.

Bioaccumulative potential

- No data available.

Mobility in Soil

- No data available.

Other adverse effects

- No data available.

Section 13 - Disposal Considerations

Waste treatment methods

- Product waste** • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
- Packaging waste** • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class (es)	Packing group	Environmental hazards
DOT	N/A	Not regulated	N/A	N/A	N/A
IMO/IMDG	N/A	Not regulated	N/A	N/A	N/A
IATA/ICAO	N/A	Not regulated	N/A	N/A	N/A

Special precautions for user • None specified.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • Not relevant.

Other information

IMO/IMDG • No data available

IATA/ICAO • No data available

Key to abbreviations

= N/A = Not applicable.

Section 15 - Regulatory Information**Safety, health and environmental regulations/legislation specific for the substance or mixture**

SARA Hazard Classifications • Acute, Chronic

FIFRA – Pesticide Labeling

This material is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION

Precautionary Statements • Keep out of reach of children.

Hazards to Humans and Domestic Animals • Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling.

First Aid • Call a poison control center or doctor for treatment advice. If in eyes • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.

Environmental Hazards • Do not contaminate water when disposing of unused product.

Inventory		
Component	CAS	TSCA
(s)-Methoprene	65733-16-6	No
Plaster of paris	26499-65-0	No

Silica, crystalline - quartz	14808-60-7	Yes
------------------------------	------------	-----

Section 16 - Other Information

- Last Revision Date** • 17/July/2015
- Preparation Date** • 17/July/2015
- Disclaimer/Statement of Liability** • The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.
-



Altosid XR-G[®]



**AN EXTENDED RESIDUAL GRANULAR PRODUCT TO PREVENT ADULT MOSQUITO EMERGENCE
(INCLUDING THOSE MOSQUITOES WHICH MAY TRANSMIT WEST NILE VIRUS)**

SPECIMEN LABEL

ACTIVE INGREDIENT:

(S)-Methoprene (CAS #65733-16-6) 1.5%

OTHER INGREDIENTS: 98.5%

Total 100.0%

EPA Reg. No. 2724-451

EPA Est. No. 2724-TX-1

KEEP OUT OF REACH OF CHILDREN
CAUTION

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION

Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with eyes or skin. Due to the size and abrasiveness of the granule, use protective eyewear and clothing to minimize exposure during loading and handling. Wash thoroughly with soap and water after handling.

ENVIRONMENTAL HAZARDS

Do not contaminate water when disposing of rinsate or equipment washwaters.

FIRST AID

If in eyes • Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.

If on skin or clothing • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes.

Call a poison control center or doctor for treatment advice. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-248-7763 for emergency medical treatment information.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

GENERAL DIRECTIONS

ALTOSID XR-G[®] releases effective levels of **ALTOSID[®]** insect growth regulator for up to 21 days after application. Applications should be continued throughout the entire season to maintain adequate control. Treated larvae continue to develop normally to the pupal stage where they die.

Rotary and fixed-wing aircraft equipped with granular spreaders capable of applying rates listed below may be used to apply **ALTOSID XR-G[®]**. Ground equipment which will achieve even coverage at these rates may also be used. Apply **ALTOSID XR-G[®]** uniformly and repeat application as necessary.

NOTE: **ALTOSID[®]** insect growth regulator has no effect on mosquitoes which have reached the pupal or adult stage prior to treatment.

APPLICATION TIME

Apply **ALTOSID XR-G[®]** at any stage of larval mosquito development. Granules may be applied prior to flooding (i.e., "pre-hatch" or "pre-flood") in areas which flood intermittently. In such areas, one application of **ALTOSID XR-G[®]** can prevent adult mosquito emergence from several subsequent floodings. The actual length of control depends on the duration and frequency of flooding events.

APPLICATION RATES

Aedes, Anopheles, and Psorophora spp.: Apply **ALTOSID XR-G[®]** at 5 - 10 lb/acre (5.6-11.2 kg/ha).
Culex, Culiseta, Coquillettidia, and Mansonia spp.: Apply **ALTOSID XR-G[®]** at 10-20 lb/acre (11.2-22.4 kg/ha). Within these ranges, use lower rates when water is shallow [< 2 feet (60 cm)] and vegetation and/or pollution are minimal. Use higher rates when water is deep [≥ 2 feet (60 cm)] and vegetation and/or pollution are heavy.

APPLICATION SITES

Non-Crop Areas: **ALTOSID XR-G®** may be applied as directed above to temporary and permanent sites which support mosquito larval development. Examples of such sites include: snow pools, salt and tidal marshes, freshwater swamps and marshes (cattail, red cedar, white maple marshes), woodland pools and meadows, dredging spoil sites, drainage areas, ditches, wastewater treatment facilities, livestock runoff lagoons, retention ponds, harvested timber stacks, swales, storm water drainage areas, sewers, catch basins, tree holes, animal watering troughs, water-holding receptacles (e.g., tires, urns, flower pots, cans, and other containers), and other natural and manmade water-holding depressions.

Crop Areas: **ALTOSID XR-G®** may be applied as directed above to temporary and permanent sites which support mosquito larval development. Examples of such sites include: irrigated croplands, pastures, rangeland, vineyards, rice fields (domestic and wild), date palm, citrus, fruit, nut orchards, berry fields and bogs.

NOTE: Application of **ALTOSID XR-G®** to sites subject to water flow or exchange will diminish the product's effectiveness and may require higher application rates and/or more frequent applications.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE

Store closed containers of **ALTOSID XR-G®** in a cool, dry place.

PESTICIDE DISPOSAL

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL

Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

WARRANTY AND CONDITIONS OF SALE

Seller makes no warranty, expressed or implied, concerning the use and handling of this product other than indicated on the label. Buyer assumes all risks of use and handling of this material when such use and handling are contrary to label instructions.

Always read the label before using this product.

For information call **1-800-248-7763**

www.altosid.com

Wellmark International
1501 East Woodfield Road 200W
Schaumburg, Illinois 60173



ALTOSID, ZOËCON, and the ZOËCON logo are registered trademarks of Wellmark International.

Safety Data Sheet



Section 1: Identification

Product identifier

Product Name	<ul style="list-style-type: none"> • Altosid XR-G
Chemical Name	<ul style="list-style-type: none"> • Terpenoid
Synonyms	<ul style="list-style-type: none"> • Altosid Pro-G; Zoecon 9010 GR
Product Code	<ul style="list-style-type: none"> • 38880; EPA Registration No: 2724-451; SAP #: 37330
Chemical Category	<ul style="list-style-type: none"> • Terpenes and terpenoids, limonene fractionated, polymer with terpenes and terpenoids, .beta....
Product Description	<ul style="list-style-type: none"> • Dark gray to black granules with a slight hydrocarbon odor.
Molecular Formula	<ul style="list-style-type: none"> • C19 H34 O3

Relevant identified uses of the substance or mixture and uses advised against

Recommended use	<ul style="list-style-type: none"> • Insect growth regulator; Pesticide
Restrictions on use	<ul style="list-style-type: none"> • Keep out of public waterways except as permitted by applicable government authorities. Avoid contact with skin and eyes. Keep out of reach of children.

Details of the supplier of the safety data sheet

Manufacturer	<ul style="list-style-type: none"> • Wellmark International <p>1501 E. Woodfield Road Suite 200 West Schaumburg, IL 60173 United States</p>
---------------------	--

Emergency telephone number

Manufacturer	<ul style="list-style-type: none"> • 1-800-248-7763
Manufacturer	<ul style="list-style-type: none"> • 1-800-424-9300 - CHEMTREC
Manufacturer (Transportation)	<ul style="list-style-type: none"> • 1-703-527-3887 - CHEMTREC - Outside North America - Collect Calls Accepted

Section 2: Hazard Identification

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012	<ul style="list-style-type: none"> • No data available; does not meet hazard criteria
----------------------	--

Label elements

OSHA HCS 2012	<ul style="list-style-type: none"> • Hazard statements No label element(s) required
----------------------	---

Other hazards**OSHA HCS 2012**

- No data available; does not meet hazard criteria.

See Section 12 for Ecological Information.

Section 3 - Composition/Information on Ingredients

Substances**Mixtures**

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
(s)-Methoprene Technical		1.6%		OSHA HCS 2012:	NDA
Proprietary	Proprietary	4.03%	NDA	OSHA HCS 2012:	NDA
Proprietary	Proprietary	90.31%	NDA	OSHA HCS 2012:	NDA
Proprietary	Proprietary	1.9%	Ingestion/Oral-Rat LD50 • >90 mL/kg	OSHA HCS 2012:	NDA
Proprietary	Proprietary	1.16%	NDA	OSHA HCS 2012:	NDA
Proprietary	Proprietary	0.9%	NDA	OSHA HCS 2012:	NDA
Proprietary	Proprietary	0.01%	NDA	OSHA HCS 2012:	NDA
Proprietary	Proprietary	0.02%	Ingestion/Oral-Rat LD50 • 2100 mg/kg Ingestion/Oral-Mouse LD50 • 1700 mg/kg Ingestion/Oral-Rabbit LD50 • 2750 mg/kg Ingestion/Oral-Pig LD50 • >6 g/kg Ingestion/Oral-Hamster LD50 • 2480 mg/kg	OSHA HCS 2012:	NDA
Proprietary	Proprietary	0.07%	Ingestion/Oral-Rat LD50 • 2960 mg/kg Inhalation-Rat LC50 • 2410 mg/m ³ 4 Hour(s) Skin-Rat LD50 • >2 g/kg Ingestion/Oral-Mouse LD50 • 1280 mg/kg Ingestion/Oral-Rabbit LD50 • >3175 mg/kg Skin-Rabbit LD50 • 10 mL/kg Ingestion/Oral-Guinea Pig LD50 • 10 g/kg	OSHA HCS 2012:	NDA

See Section 11 for Toxicological Information.

Section 4: First-Aid Measures

Description of first aid measures

- Inhalation**
- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing.
- Skin**
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Remove and isolate contaminated clothing.
- Eye**
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes.
- Ingestion**
- No data available.

Most important symptoms and effects, both acute and delayed

- No data available

Indication of any immediate medical attention and special treatment needed

Other information

- Call 911 or emergency medical service. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

See Section 2 for Potential Health Effects.

Section 5: Fire-Fighting Measures

Extinguishing media

- Suitable Extinguishing Media**
- LARGE FIRE: Water spray, fog or regular foam.
SMALL FIRES: Dry chemical, CO₂, water spray or regular foam.

- Unsuitable Extinguishing Media**
- No data available.

- Firefighting Procedures**
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions.
Keep unauthorized personnel away.
LARGE FIRES: Do not scatter spilled material with high pressure water streams.
LARGE FIRES: Move containers from fire area if you can do it without risk.
Stay upwind.

Special hazards arising from the substance or mixture

- Unusual Fire and Explosion Hazards**
- None known.

- Hazardous Combustion Products**
- No data available.

Advice for firefighters

- Structural firefighters' protective clothing will only provide limited protection. Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

- Personal Precautions**
- Do not walk through spilled material.

- Emergency Procedures**
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions.

Environmental precautions

- Runoff from fire control may cause pollution.

Methods and material for containment and cleaning up

- Containment/Clean-up Measures**
- SMALL DRY SPILLS: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

Section 7 - Handling and Storage

Precautions for safe handling

Handling ● Avoid contact with skin or eyes.

Conditions for safe storage, including any incompatibilities

Storage ● Store closed containers in a cool dry place. Do not contaminate water, food or feed by storage or disposal.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure Limits/Guidelines			
	Result	ACGIH	NIOSH
Proprietary (Proprietary)	TWAs	0.025 mg/m ³ TWA (respirable fraction)	0.05 mg/m ³ TWA (respirable dust)

Exposure Control Notations

ACGIH

- Proprietary (Proprietary): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen)
- Proprietary (Proprietary): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen)
- Proprietary (Proprietary): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen (synthetic nonfibrous))
- Proprietary (Proprietary): **Carcinogens:** (A2 - Suspected Human Carcinogen)

Exposure Limits Supplemental

OSHA

- Proprietary (Proprietary): **Mineral Dusts:** ((30)/(SiO₂ + 2) mg/m³ TWA, total dust; (250)/(SiO₂ + 5) mppcf TWA, respirable fraction; (10)/(SiO₂ + 2) mg/m³ TWA, respirable fraction)

Exposure controls

Engineering

Measures/Controls

- No data available

Personal Protective Equipment

Pictograms



Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/Face

- Wear protective eyewear (goggles, face shield, or safety glasses).

Hands

- Wear appropriate gloves.

Skin/Body

- No data available

General Industrial Hygiene Considerations

- Do not get in eyes or on skin or clothing. Handle in accordance with good industrial hygiene and safety practice.

Environmental Exposure Controls

- No data available

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid granules	Appearance/Description	Dark gray to black granules.

Color	Dark gray to black.	Odor	Fruity herbal.
Taste	No data available	Particulate Type	Dust
Odor Threshold	No data available	Physical and Chemical Properties	No data available
General Properties			
Boiling Point	110 C(230 F)	Melting Point	No data available
Decomposition Temperature	No data available	Heat of Decomposition	No data available
pH	No data available	Specific Gravity/Relative Density	1.04 Water=1
Density	No data available	Bulk Density	2.438 g/cm ³
Water Solubility	Practically insoluble	Solvent Solubility	No data available
Viscosity	No data available	Explosive Properties	No data available
Oxidizing Properties:	No data available		
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available	VOC (Wt.)	No data available
VOC (Vol.)	No data available	Volatiles (Wt.)	No data available
Volatiles (Vol.)	No data available		
Flammability			
Flash Point	No data available	UEL	No data available
LEL	No data available	Flame Duration	No data available
Heat of Combustion (ΔH_c)	No data available	Burning Time	No data available
Autoignition	No data available	Flammability (solid, gas)	Not Flammable.
Environmental			
Half-Life	No data available	Octanol/Water Partition coefficient	No data available
Coefficient of water/oil distribution	No data available	Bioaccumulation Factor	No data available
Bioconcentration Factor	No data available	Biochemical Oxygen Demand BOD/BOD5	No data available
Chemical Oxygen Demand	No data available	Persistence	No data available
Degradation	No data available		

Section 10: Stability and Reactivity

Reactivity

- No data available

Chemical stability

- Stable

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- No data available.

Incompatible materials

- No data available.

Hazardous decomposition products

- No data available.

Section 11 - Toxicological Information

Information on toxicological effects

Component Name	CAS	Data
(s)-Methoprene Technical (1.6%)	65733-16-6	Acute Toxicity: Ingestion/Oral-Rat LD50 • >5000 mg/kg; Inhalation-Rat LC50 • 5.19 mg/L 4 Hour (s); Skin-Rabbit LD50 • >5000 mg/kg

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • Classification criteria not met
Aspiration Hazard	OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	OSHA HCS 2012 • Classification criteria not met
Germ Cell Mutagenicity	OSHA HCS 2012 • Classification criteria not met
Skin corrosion/Irritation	OSHA HCS 2012 • Classification criteria not met
Skin sensitization	OSHA HCS 2012 • Classification criteria not met
STOT-RE	OSHA HCS 2012 • Classification criteria not met
STOT-SE	OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	OSHA HCS 2012 • Classification criteria not met
Respiratory sensitization	OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	OSHA HCS 2012 • Classification criteria not met

Potential Health Effects

Inhalation

- Acute (Immediate)**
- Under normal conditions of use, no health effects are expected. Exposure to dust may cause mild irritation.
- Chronic (Delayed)**
- No data available.

Skin

- Acute (Immediate)**
- Under normal conditions of use, no health effects are expected. Exposure to dust may cause mechanical irritation.
- Chronic (Delayed)**
- No data available.

Eye

- Acute (Immediate)**
- Under normal conditions of use, no health effects are expected. Exposure to dust may cause mechanical irritation.
- Chronic (Delayed)**
- No data available.

Ingestion

- Acute (Immediate)**
- Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)**
- No data available.

Carcinogenic Effects

- Exposure to silica dust from the finished product is not expected to occur due to the manner in which the constituents are bound. Finished product not considered carcinogenic.

Carcinogenic Effects			
	CAS	IARC	NTP
Proprietary	Proprietary	Group 1-Carcinogenic	Known Human Carcinogen

Section 12 - Ecological Information

Toxicity

Altosid XR-G					
Dosage	Species	Duration	Results	Exposure Conditions	Comments
= 360 ppb	Water Flea: NDA	NDA	NDA	NDA	NDA
= 760 ppb	Fish: Blue gill	NDA	LC50	NDA	NDA
> 370 ppb	Fish: Trout	NDA	LC50	NDA	NDA
Component		CAS	Data		Comments
(s)-Methoprene Technical (1.6%)		65733-16-6	Crustacea: LC50 Crustacea 360 ppb ; Fish: LC50 Fish 370 ppb ; LC50 Fish 760 ppb		

Persistence and degradability

- No data available

Bioaccumulative potential

- No data available

Mobility in Soil

- 10-14 days, rapidly hydrolyzed in soil.

Other adverse effects

Ecological Fate

- Not hydrolyzed up to 30 days.

Other Information

- No data available.

Section 13 - Disposal Considerations

Waste treatment methods

Product waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class (es)	Packing group	Environmental hazards
DOT	NDA	Non-regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not Regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not Regulated	NDA	NDA	NDA

Special precautions for user

- No data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- No data available

Other information

- Freight Classification: Insecticides, NOI other than poison.

IATA/ICAO • Non-regulated

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications ● Not regulated

FIFRA – Pesticide Labeling

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

Precautionary Statements ● KEEP OUT OF THE REACH OF CHILDREN

Hazards to Humans and Domestic Animals ● Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with eyes or skin. Due to the size and abrasiveness of the granule, use protective eyewear and clothing to minimize exposure during loading and handling. Wash thoroughly with soap and water after handling.

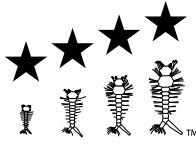
First Aid ● IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Section 16 - Other Information

Last Revision Date ● 24/January/2014

Preparation Date ● 24/January/2014

Disclaimer/Statement of Liability ● The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IF MADE.



Specimen Label

Sustained Release 180 Day Microbial Briquets

ACTIVE INGREDIENTS:

* <i>Bacillus sphaericus</i> 2362, Serotype H5a5b, Strain AML614	6.00%
fermentation solids, spores and insecticidal toxins	
** <i>Bacillus thuringiensis</i> subspecies <i>israelensis</i> Strain BMP 144	1.00%
fermentation solids, spores and insecticidal toxins	

OTHER INGREDIENTS:	93.00%
TOTAL:	100.00%

* Equivalent to *60 Bs ITU/mg and **70 ITU/mg respectively. The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS – CAUTION:

Harmful if inhaled. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Avoid breathing dust. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

ENVIRONMENTAL HAZARDS:

Do not apply to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

FIRST AID	
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth if possible. • Call poison control center or doctor for treatment advice.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call poison control center or doctor for treatment advice.
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing eyes. • Call poison control center or doctor for treatment advice.
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-248-7763 for emergency medical treatment information.</p>	

DIRECTIONS FOR USE

It is a violation of Federal law to apply this product in a manner inconsistent with its labeling.

APPLICATION DIRECTIONS

FourStar® Briquets are a highly selective microbial insecticide effective against mosquitoes in a variety of habitats for up to 180 days or more. **FourStar® Briquets** release effective levels of *Bacillus sphaericus* and *Bacillus thuringiensis* subspecies *israelensis* to the water surface over time as the briquet dissolves.

APPLICATION SITES

FourStar® Briquets can be applied to areas that contain aquatic life, fish and plants, as well as areas used by or in contact with humans, animals, horses, livestock, pets, birds or wildlife. Examples of application sites include, but are not limited to: storm drains, catch basins, underground drainage systems, storm water retention areas, retention ponds, abandoned swimming pools, ornamental fountains and ponds, fish ponds, water gardens, animal drinking troughs, standing water, water holding receptacles, man-made and natural sites where mosquitoes may develop.

APPLICATION RATES

For control of mosquito larvae, place one (1) briquet in sites up to 100 square feet of surface area. For large sites, apply 1 additional briquet for each additional 100 square feet of water surface, regardless of water depth. When mosquito populations are high, water is heavily polluted, and/or algae are abundant, double the above application rate.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage: Store in a cool, dry place.

Pesticide Disposal: Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Nonrefillable container. Do not reuse or refill empty carton or packaging material. Offer for recycling if available or crush and discard carton in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

NOTICE TO USER

Seller makes no warranty express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with label instructions.

Always read the label before using this product.

For product information, call 1-800-248-7763 or visit our web site:

www.fourstarmicrobials.com



Manufactured for: B2E Microbials LLC
DBA FourStar Microbials LLC
1501 East Woodfield Road, #200W
Schaumburg, Illinois, 60173 U.S.A.

FourStar and the FourStar design are trademarks of B2E Microbials LLC | Made in USA

EPA Reg. No. 83362-3 | EPA Est. No. 86684-OR-1
©2013 FourStar | U.S. Patent No. 7837988

Safety Data Sheet



Section 1: Identification

Product identifier

- Product Name** • **FourStar Bti Briquets Sustained Release 45 Day Microbial Briquets; FourStar Bti Briquets Sustained Release 150 Day Microbial Briquets**
- Synonyms** • 100519560; 100519561; EPA Reg. No.: 83362-2; FourStar Bti Catch Basin Briquets 150; FourStar Bti Catch Basin Briquets 45; FourStar® Bti Briquets; FourStar® Bti Briquets 150; FourStar® Bti Briquets 45; Meridian-02
- Product Description** • Solid, light tan briquette.
- Relevant identified uses of the substance or mixture and uses advised against**
- Recommended use** • Microbial insecticide effective against mosquitoes in a variety of habitats.
- Restrictions on use** • Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption. Avoid contact with eyes and skin. Keep out of reach of children.

Details of the supplier of the safety data sheet

- Manufacturer** • B2E Microbials, LLC DBA FourStar Microbials, LLC
1501 E. Woodfield Road, Suite 200W
Schaumburg, IL 60173
United States
www.fourstarmicrobials.com

Emergency telephone number

- Manufacturer (Transportation)** • 1-800-424-9300 - CHEMTREC
- Manufacturer (Transportation)** • 1-703-527-3887 - CHEMTREC - Outside US Collect Calls Accepted
- Manufacturer** • 1-800-248-7763

Section 2: Hazard Identification

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

- OSHA HCS 2012** • Skin Sensitization 1
Carcinogenicity 1A

Label elements

OSHA HCS 2012

DANGER



- Hazard statements** • May cause an allergic skin reaction
May cause cancer.

Precautionary statements

- Prevention** • Wear protective gloves/protective clothing/eye protection/face protection.
Avoid breathing dust, fume, gas, mist, vapors and/or spray.
Contaminated work clothing should not be allowed out of the workplace.
Do not handle until all safety precautions have been read and understood.
Obtain special instructions before use.

- Response** • If skin irritation or rash occurs: Get medical advice/attention.
Specific treatment, see supplemental first aid information.
Wash contaminated clothing before reuse.
IF exposed or concerned: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.

- Storage/Disposal** • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
Store locked up.

- Supplemental information** • The finished product is not considered carcinogenic because of the product's physical form. The Hazard Statement "May Cause Cancer" is presented because a component of this product contains a naturally occurring trace amount of crystalline silica (quartz) which is classified as carcinogenic to humans if inhaled. Respiratory exposure to silica dust from the finished product is not expected to occur under normal conditions of use due to the manner in which the constituents are bound. The crystalline silica in the finished product is unlikely to pose personal exposure via inhalation.

Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Section 3 - Composition/Information on Ingredients

Substances

- Material does not meet the criteria of a substance according to United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Mixtures

Composition		
Chemical Name	Identifiers	%
Bacillus thuringiensis ssp. israelensis	CAS:68038-71-1	7%
Plaster of paris	CAS:26499-65-0	73%
Silica, crystalline - quartz	CAS:14808-60-7	< 1%
Other ingredients	NDA	19% TO 20%

Section 4: First-Aid Measures

Description of first aid measures

- Inhalation**
- IF INHALED: If breathing is difficult, remove person to fresh air and keep at rest in a position comfortable for breathing. Call a poison control center or doctor for further treatment advice.
- Skin**
- IF ON SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- Eye**
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison control center or doctor for treatment advice.
- Ingestion**
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended.

Most important symptoms and effects, both acute and delayed

- May cause an allergic skin reaction in individuals with a sensitivity to *Bacillus thuringiensis* ssp. *israelensis*, may cause cancer. Refer to Section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed

- Notes to Physician**
- Treat symptomatically and supportively.

Section 5: Fire-Fighting Measures

Extinguishing media

- Suitable Extinguishing Media**
- LARGE FIRE: Water spray, fog or regular foam.
SMALL FIRES: Dry chemical, CO2, water spray or regular foam.

- Unsuitable Extinguishing Media**
- No data available.

Special hazards arising from the substance or mixture

- Unusual Fire and Explosion Hazards**
- Material is non-combustible and is not expected to pose a fire or explosion hazard.

- Hazardous Combustion Products**
- No data available.

Advice for firefighters

- Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

- Personal Precautions**
- Avoid contact with skin, eyes, and clothing. Wear appropriate personal protective equipment, avoid direct contact. Remove clothing and wash thoroughly before use.

- Emergency Procedures**
- Use normal clean up procedures.

Environmental precautions

- Follow best practice for site management and disposal of waste.

Methods and material for containment and cleaning up

- Containment/Clean-up Measures**
- Use appropriate Personal Protective Equipment (PPE). Carefully shovel or sweep up spilled material and place in suitable container.

Section 7 - Handling and Storage

Precautions for safe handling

- Handling**
- Use good safety and industrial hygiene practices. Avoid contact with skin and eyes.

Conditions for safe storage, including any incompatibilities

- Storage**
- Store closed containers in a cool dry place. Do not contaminate water, food or feed by storage or disposal.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
Silica, crystalline - quartz (14808-60-7)	TWAs	0.025 mg/m ³ TWA (respirable fraction)	0.05 mg/m ³ TWA (respirable dust)	See below
Plaster of paris (26499-65-0)	TWAs	Not established	10 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable dust)	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)

Exposure Limits Supplemental

OSHA

- Silica, crystalline - quartz (14808-60-7): **Mineral Dusts:** ((30)/(%SiO₂ + 2) mg/m³ TWA, total dust; (250)/(%SiO₂ + 5) mppcf TWA, respirable fraction; (10)/(%SiO₂ + 2) mg/m³ TWA, respirable fraction)

ACGIH

- Silica, crystalline - quartz (14808-60-7): **TLV Basis - Critical Effects:** (lung cancer; pulmonary fibrosis)

Exposure controls

Engineering Measures/Controls

- No data available.

Personal Protective Equipment

Pictograms



Respiratory

- None specified.

Eye/Face

- Wear safety glasses.

Hands

- Wear appropriate gloves.

Skin/Body

- If prolonged exposure is anticipated, it is recommended for handlers to wear appropriate clothing to prevent skin contact.

Environmental Exposure Controls

- Refer to Section 13 - Disposal Considerations.

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	Solid briquette.
Color	Light tan.	Odor	No data available.
Odor Threshold	No data available		
General Properties			
Boiling Point	No data available	Melting Point/Freezing Point	No data available
Decomposition Temperature	No data available	pH	Not relevant
Specific Gravity/Relative Density	= 0.82 Water=1	Bulk Density	No data available
Water Solubility	Slightly soluble	Viscosity	Not relevant

Volatility

Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		

Flammability

Flash Point	Not relevant	UEL	No data available
LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	Not Flammable.		

Environmental

Octanol/Water Partition coefficient	No data available		
-------------------------------------	-------------------	--	--

Section 10: Stability and Reactivity**Reactivity**

- Non-reactive

Chemical stability

- Stable

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- No data available.

Incompatible materials

- No data available.

Hazardous decomposition products

- No data available.

Section 11 - Toxicological Information**Information on toxicological effects**

Components		
Bacillus thuringiensis ssp. israelensis (7%)	68038-71-1	Acute Toxicity: Ingestion/Oral-Rat LD50 • 5000 mg/kg; Inhalation-Rat LC50 • 2.04 mg/L 4 Hour (s); Skin-Rabbit LD50 • 5000 mg/kg; Irritation: Eye-Rabbit • Mild irritation; Skin-Rabbit • Mild irritation

GHS Properties	Classification
Respiratory sensitization	OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	OSHA HCS 2012 • Classification criteria not met
Acute toxicity	OSHA HCS 2012 • Acute Toxicity - Dermal - Classification criteria not met; Acute Toxicity - Inhalation - Classification criteria not met; Acute Toxicity - Oral - Classification criteria not met
Aspiration Hazard	OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	OSHA HCS 2012 • Carcinogenicity 1A
Skin corrosion/Irritation	OSHA HCS 2012 • Classification criteria not met
Skin sensitization	OSHA HCS 2012 • Skin Sensitizer 1

STOT-RE	OSHA HCS 2012 • Classification criteria not met
STOT-SE	OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	OSHA HCS 2012 • Classification criteria not met
Germ Cell Mutagenicity	OSHA HCS 2012 • Classification criteria not met

Route(s) of entry/exposure • Inhalation, skin or eye contact, and ingestion.

Potential Health Effects

Inhalation

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)** • Exposure to respirable crystalline silica is not expected during normal use of this product. However, prolonged overexposure to respirable crystalline silica may cause lung disease (silicosis).

Skin

- Acute (Immediate)** • May cause an allergic reaction in individuals with a sensitivity to *Bacillus thuringiensis* ssp. *israelensis*.
- Chronic (Delayed)** • No data available

Eye

- Acute (Immediate)** • May cause moderate irritation.
- Chronic (Delayed)** • No data available.

Ingestion

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)** • No data available

Other

- Chronic (Delayed)** • No data available.

Carcinogenic Effects

- Exposure to respirable crystalline silica dust from the finished product is not expected to occur due to the manner in which the constituents are bound, thus the finished product is not considered carcinogenic under conditions of normal use.

Section 12 - Ecological Information

Toxicity

- No data available

Persistence and degradability

- No data available.

Bioaccumulative potential

- No data available.

Mobility in Soil

- No data available.

Other adverse effects

Potential Environmental Effects

- Do not contaminate water when disposing or equipment washwaters or rinsate. Do not apply to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

Section 13 - Disposal Considerations

Waste treatment methods

- Product waste**
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. Do not contaminate water, food, or feed by storage or disposal.
- Packaging waste**
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. Nonrefillable container. Do not reuse or refill empty carton or packaging material. Offer for recycling, if available or crush and discard carton in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. Do not breathe smoke if burned.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class (es)	Packing group	Environmental hazards
DOT	Not Applicable	Not Regulated	Not Applicable	Not Applicable	Not Applicable
IMO/IMDG	Not Applicable	Not Regulated	Not Applicable	Not Applicable	Not Applicable
IATA/ICAO	Not Applicable	Not Regulated	Not Applicable	Not Applicable	Not Applicable

Special precautions for user • None specified.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • No data available

Other information

IMO/IMDG • No data available

IATA/ICAO • No data available

Key to abbreviations

= N/A = Not applicable.

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Acute, Chronic

FIFRA – Pesticide Labeling

This is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION

Hazard Statements • Keep out of reach of children.

Precautionary Statements •

Hazards to Humans and Domestic Animals • Hazards to Humans and Domestic Animals: Harmful if inhaled. Causes moderate eye irritation. Avoid contact with eyes or clothing. Avoid contact with skin, eyes or clothing. Avoid breathing dust. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco. Remove and wash contaminated clothing before reuse.

First Aid • IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth if possible. Call poison control center or doctor for treatment advice.
IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes.

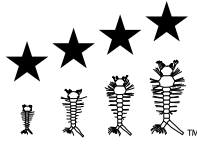
Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
 IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Environmental Hazards • Do not apply to treated, finish drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.
 Do not contaminate water when disposing of equipment wash waters.

Inventory		
Component	CAS	TSCA
Bacillus thuringiensis ssp. israelensis	68038-71-1	Yes
Plaster of paris	26499-65-0	No
Silica, crystalline - quartz	14808-60-7	Yes

Section 16 - Other Information

- Revision Date** • 11/August/2015
- Last Revision Date** • 11/August/2015
- Preparation Date** • 11/August/2015
- Disclaimer/Statement of Liability** • The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.



Specimen Label

Sustained Release 45 Day Microbial Briquets

ACTIVE INGREDIENTS:

* <i>Bacillus sphaericus</i> 2362, Serotype H5a5b, Strain AML614	6.00%
fermentation solids, spores and insecticidal toxins	
** <i>Bacillus thuringiensis</i> subspecies <i>israelensis</i> Strain BMP 144	1.00%
fermentation solids, spores and insecticidal toxins	

OTHER INGREDIENTS:	93.00%
TOTAL:	100.00%

* Equivalent to *60 Bs ITU/mg and **70 ITU/mg respectively. The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS – CAUTION:

Harmful if inhaled. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Avoid breathing dust. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

ENVIRONMENTAL HAZARDS:

Do not apply to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

FIRST AID	
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth if possible. • Call poison control center or doctor for treatment advice.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call poison control center or doctor for treatment advice.
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing eyes. • Call poison control center or doctor for treatment advice.
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-248-7763 for emergency medical treatment information.</p>	

DIRECTIONS FOR USE

It is a violation of Federal law to apply this product in a manner inconsistent with its labeling.

APPLICATION DIRECTIONS

FourStar® Briquets are a highly selective microbial insecticide effective against mosquitoes in a variety of habitats for up to 45 days or more. **FourStar® Briquets** release effective levels of *Bacillus sphaericus* and *Bacillus thuringiensis* subspecies *israelensis* to the water surface over time as the briquet dissolves.

APPLICATION SITES

FourStar® Briquets can be applied to areas that contain aquatic life, fish and plants, as well as areas used by or in contact with humans, animals, horses, livestock, pets, birds or wildlife. Examples of application sites include, but are not limited to: storm drains, catch basins, underground drainage systems, storm water retention areas, retention ponds, abandoned swimming pools, ornamental fountains and ponds, fish ponds, water gardens, animal drinking troughs, standing water, water holding receptacles, man-made and natural sites where mosquitoes may develop.

APPLICATION RATES

For control of mosquito larvae, place one (1) briquet in sites up to 100 square feet of surface area. For large sites, apply 1 additional briquet for each additional 100 square feet of water surface, regardless of water depth. When mosquito populations are high, water is heavily polluted, and/or algae are abundant, double the above application rate.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage: Store in a cool, dry place.

Pesticide Disposal: Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Nonrefillable container. Do not reuse or refill empty carton or packaging material. Offer for recycling if available or crush and discard carton in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

NOTICE TO USER

Seller makes no warranty express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with label instructions.

Always read the label before using this product.

For product information, call 1-800-248-7763 or visit our web site:

www.fourstarmicrobials.com



Manufactured for: B2E Microbials LLC
DBA FourStar Microbials LLC
1501 East Woodfield Road, #200W
Schaumburg, Illinois, 60173 U.S.A.

FourStar and the FourStar design are trademarks of B2E Microbials LLC | Made in USA

EPA Reg. No. 83362-3 | EPA Est. No. 86884-OR-1
©2013 FourStar | U.S. Patent No. 7837988

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Trade name : FourStar Briquets
 Synonyms : 100514285; 100514296; 100514297; EPA Reg. No.: 83362-3; FourStar Briquets Sustained Release 180 Day Microbial Briquets; FourStar Briquets Sustained Release 45 Day Microbial Briquets; FourStar Briquets Sustained Release 90 Day Microbial Briquets; FourStar Microbial Briquets

1.2. Recommended use and restrictions on use

Recommended use : Microbial insecticide.
 Restrictions on use : Keep out of reach of children. Avoid contact with eyes, skin or clothing. Do NOT take internally.

1.3. Supplier

B2E Microbials, LLC, DBA FourStar Microbials, LLC
 1501 E. Woodfield Road, Suite 200W
 Schaumburg, IL 60173 - United States

www.fourstarmicrobials.com

1.4. Emergency telephone number

Emergency number : 1-800-248-7763
 1-800-424-9300 - CHEMTREC
 1-703-527-3887 - CHEMTREC - Outside North America - Collect Calls Accepted

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin sensitization, Category 1 May cause an allergic skin reaction

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS07

Signal word (GHS-US) : Warning
 Hazard statements (GHS-US) : May cause an allergic skin reaction
 Precautionary statements (GHS-US) : Avoid breathing dust/fume/gas/mist/vapors/spray.
 Contaminated work clothing must not be allowed out of the workplace
 Wear protective gloves/protective clothing/eye protection/face protection.
 If on skin: Wash with plenty of water
 Specific treatment (see supplemental first aid instruction on this label)
 If skin irritation or rash occurs: Get medical advice/attention.
 Wash contaminated clothing before reuse.
 Dispose of contents/container to in accordance with local/regional/national/international regulations

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

2.4. Unknown acute toxicity (GHS US)

Not applicable

FourStar Briquets

Safety Data Sheet

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Bacillus thuringiensis ssp. israelensis	(CAS-No.) 68038-71-1	1
Bacillus sphaericus	(CAS-No.) 143447-72-7	6
Plaster of paris	(CAS-No.) 26499-65-0	60 - 80
Other ingredients	(CAS-No.) N/A	Balance

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
- First-aid measures after skin contact : IF ON SKIN: Wash with plenty of soap and water. Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
- First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice and attention.
- First-aid measures after ingestion : IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting unless directed to do so by medical personnel.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects after skin contact : May cause an allergic reaction in individuals with a sensitivity to Bacillus thuringiensis ssp. israelensis and/or Bacillus sphaericus.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
- Unsuitable extinguishing media : Avoid heavy hose streams.

5.2. Specific hazards arising from the chemical

- Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Do not allow fire fighting water to escape into waterways or sewers. Do not use direct stream of water. A direct stream of water may spread fire. Ventilate closed spaces before entering. Do not breathe gas/fumes/vapor/spray. Keep unauthorized personnel away.
- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapors/spray.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: Exposure controls/personal protection.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Sweep or scoop spills, dispose of any unusable material in approved landfill. Use appropriate PPE.

FourStar Briquets

Safety Data Sheet

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Provide local exhaust or general room ventilation. Wear personal protective equipment. Avoid contact with skin and eyes.
- Hygiene measures : Separate working clothes from town clothes. Launder separately. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep container tightly closed. Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Plaster of paris (26499-65-0)		
OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)

8.2. Appropriate engineering controls

- Appropriate engineering controls : Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

If prolonged exposure is anticipated, it is recommended for handlers to wear appropriate clothing to prevent skin contact.

Respiratory protection:

Not required for normal conditions of use



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Solid
- Appearance : Light tan briquette
- Color : Light tan
- Odor : No data available
- Odor threshold : No data available
- pH : No data available
- Melting point : No data available
- Freezing point : Not applicable
- Boiling point : No data available

FourStar Briquets

Safety Data Sheet

Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 0.82
Solubility	: Soluble
Log Pow	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: Not explosive
Oxidizing properties	: Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Hazardous polymerization will not occur.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Bacillus thuringiensis ssp. israelensis (68038-71-1)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 2.04 mg/l/4h
Bacillus sphaericus (143447-72-7)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 2.04 mg/l/4h

GHS-US Properties	Classification
Acute toxicity	Not classified
Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Respiratory or skin sensitization	May cause an allergic skin reaction.
Germ cells mutagen	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicant (single exposure)	Not classified

FourStar Briquets

Safety Data Sheet

Specific target organ toxicant (repeated exposure)	Not classified
Aspiration hazard	Not classified

Potential health effects

Inhalation

Acute : Under normal conditions of use, no health effects are expected.

Skin

Acute : Exposure may cause mechanical irritation, May cause an allergic reaction in individuals with a sensitivity to *Bacillus thuringiensis* ssp. *israelensis* and/or *Bacillus sphaericus*.

Eye

Acute : Exposure may cause mechanical eye irritation.

Ingestion

Acute : Under normal conditions of use, no health effects are expected.

Mutagenicity : Not classified.

Carcinogenicity : Not classified.

Reproductive Effects : Not classified.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

SECTION 14: Transport information

	UN number	Proper Shipping Name	Transport hazard class(es)	Packing group	Environmental hazards
DOT	Not regulated	Not regulated	Not regulated	Not regulated	Not applicable
IMDG	Not regulated	Not regulated	Not regulated	Not regulated	Not applicable
IATA	Not regulated	Not regulated	Not regulated	Not regulated	Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

FourStar Briquets

Safety Data Sheet

Bacillus thuringiensis ssp. israelensis (68038-71-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under Chemical Data Reporting Rule (formerly the Inventory Update Reporting Rule), i.e, Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 711).
--------------------------	--

FIFRA Labelling

EPA Registration Number	83362-3
-------------------------	---------

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

FIFRA Signal word	Caution
-------------------	----------------

FIFRA Precautionary Statement	KEEP OUT OF REACH OF CHILDREN.
-------------------------------	--------------------------------

FIFRA Hazards to Humans and Domestic Animals	Harmful if inhaled. Causes moderate eye irritation. Avoid contact with eyes or clothing. Avoid contact with skin, eyes or clothing. Avoid breathing dust. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.
--	---

FIFRA First Aid	If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth if possible. Call poison control center or doctor for treatment advice. If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing eye. Call poison control center or doctor for treatment advice. If on skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call poison control center or doctor for treatment advice.
-----------------	--

FIFRA Environmental Hazards	Do not apply to treated, finish drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.
-----------------------------	---

15.2. US State regulations

No additional information available

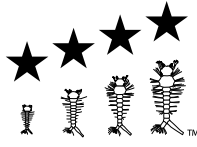
SECTION 16: Other information

Date of issue	: 30 April 2014
Revision date	: 10 May 2018
Supersedes	: 09 June 2016

Indication of changes:
SDS update.

SDS US (GHS HazCom 2012) - CGP

The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.



Specimen Label

Sustained Release 90 Day Microbial Briquets

ACTIVE INGREDIENTS:

* <i>Bacillus sphaericus</i> 2362, Serotype H5a5b, Strain AML614	6.00%
fermentation solids, spores and insecticidal toxins	
** <i>Bacillus thuringiensis</i> subspecies <i>israelensis</i> Strain BMP 144	1.00%
fermentation solids, spores and insecticidal toxins	

OTHER INGREDIENTS:	93.00%
TOTAL:	100.00%

* Equivalent to *60 Bs ITU/mg and **70 ITU/mg respectively. The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS – CAUTION:

Harmful if inhaled. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Avoid breathing dust. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

ENVIRONMENTAL HAZARDS:

Do not apply to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

FIRST AID	
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth if possible. • Call poison control center or doctor for treatment advice.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call poison control center or doctor for treatment advice.
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing eyes. • Call poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-248-7763 for emergency medical treatment information.	

DIRECTIONS FOR USE

It is a violation of Federal law to apply this product in a manner inconsistent with its labeling.

APPLICATION DIRECTIONS

FourStar® Briquets are a highly selective microbial insecticide effective against mosquitoes in a variety of habitats for up to 90 days or more. **FourStar® Briquets** release effective levels of *Bacillus sphaericus* and *Bacillus thuringiensis* subspecies *israelensis* to the water surface over time as the briquet dissolves.

APPLICATION SITES

FourStar® Briquets can be applied to areas that contain aquatic life, fish and plants, as well as areas used by or in contact with humans, animals, horses, livestock, pets, birds or wildlife. Examples of application sites include, but are not limited to: storm drains, catch basins, underground drainage systems, storm water retention areas, retention ponds, abandoned swimming pools, ornamental fountains and ponds, fish ponds, water gardens, animal drinking troughs, standing water, water holding receptacles, man-made and natural sites where mosquitoes may develop.

APPLICATION RATES

For control of mosquito larvae, place one (1) briquet in sites up to 100 square feet of surface area. For large sites, apply 1 additional briquet for each additional 100 square feet of water surface, regardless of water depth. When mosquito populations are high, water is heavily polluted, and/or algae are abundant, double the above application rate.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage: Store in a cool, dry place.

Pesticide Disposal: Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Nonrefillable container. Do not reuse or refill empty carton or packaging material. Offer for recycling if available or crush and discard carton in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

NOTICE TO USER

Seller makes no warranty express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with label instructions.

Always read the label before using this product.

For product information, call 1-800-248-7763 or visit our web site:

www.fourstarmicrobials.com



Manufactured for: B2E Microbials LLC
DBA FourStar Microbials LLC
1501 East Woodfield Road, #200W
Schaumburg, Illinois, 60173 U.S.A.

FourStar and the FourStar design are trademarks of B2E Microbials LLC | Made in USA

EPA Reg. No. 83362-3 | EPA Est. No. 86684-OR-1
©2013 FourStar | U.S. Patent No. 7837988

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Trade name : FourStar Briquets
 Synonyms : 100514285; 100514296; 100514297; EPA Reg. No.: 83362-3; FourStar Briquets Sustained Release 180 Day Microbial Briquets; FourStar Briquets Sustained Release 45 Day Microbial Briquets; FourStar Briquets Sustained Release 90 Day Microbial Briquets; FourStar Microbial Briquets

1.2. Recommended use and restrictions on use

Recommended use : Microbial insecticide.
 Restrictions on use : Keep out of reach of children. Avoid contact with eyes, skin or clothing. Do NOT take internally.

1.3. Supplier

B2E Microbials, LLC, DBA FourStar Microbials, LLC
 1501 E. Woodfield Road, Suite 200W
 Schaumburg, IL 60173 - United States

www.fourstarmicrobials.com

1.4. Emergency telephone number

Emergency number : 1-800-248-7763
 1-800-424-9300 - CHEMTREC
 1-703-527-3887 - CHEMTREC - Outside North America - Collect Calls Accepted

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin sensitization, Category 1 May cause an allergic skin reaction

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS07

Signal word (GHS-US) : Warning
 Hazard statements (GHS-US) : May cause an allergic skin reaction
 Precautionary statements (GHS-US) : Avoid breathing dust/fume/gas/mist/vapors/spray.
 Contaminated work clothing must not be allowed out of the workplace
 Wear protective gloves/protective clothing/eye protection/face protection.
 If on skin: Wash with plenty of water
 Specific treatment (see supplemental first aid instruction on this label)
 If skin irritation or rash occurs: Get medical advice/attention.
 Wash contaminated clothing before reuse.
 Dispose of contents/container to in accordance with local/regional/national/international regulations

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

2.4. Unknown acute toxicity (GHS US)

Not applicable

FourStar Briquets

Safety Data Sheet

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Bacillus thuringiensis ssp. israelensis	(CAS-No.) 68038-71-1	1
Bacillus sphaericus	(CAS-No.) 143447-72-7	6
Plaster of paris	(CAS-No.) 26499-65-0	60 - 80
Other ingredients	(CAS-No.) N/A	Balance

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
- First-aid measures after skin contact : IF ON SKIN: Wash with plenty of soap and water. Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
- First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice and attention.
- First-aid measures after ingestion : IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting unless directed to do so by medical personnel.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects after skin contact : May cause an allergic reaction in individuals with a sensitivity to Bacillus thuringiensis ssp. israelensis and/or Bacillus sphaericus.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
- Unsuitable extinguishing media : Avoid heavy hose streams.

5.2. Specific hazards arising from the chemical

- Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Do not allow fire fighting water to escape into waterways or sewers. Do not use direct stream of water. A direct stream of water may spread fire. Ventilate closed spaces before entering. Do not breathe gas/fumes/vapor/spray. Keep unauthorized personnel away.
- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapors/spray.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: Exposure controls/personal protection.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Sweep or scoop spills, dispose of any unusable material in approved landfill. Use appropriate PPE.

FourStar Briquets

Safety Data Sheet

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Provide local exhaust or general room ventilation. Wear personal protective equipment. Avoid contact with skin and eyes.
- Hygiene measures : Separate working clothes from town clothes. Launder separately. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep container tightly closed. Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Plaster of paris (26499-65-0)		
OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)

8.2. Appropriate engineering controls

- Appropriate engineering controls : Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

If prolonged exposure is anticipated, it is recommended for handlers to wear appropriate clothing to prevent skin contact.

Respiratory protection:

Not required for normal conditions of use



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Solid
- Appearance : Light tan briquette
- Color : Light tan
- Odor : No data available
- Odor threshold : No data available
- pH : No data available
- Melting point : No data available
- Freezing point : Not applicable
- Boiling point : No data available

FourStar Briquets

Safety Data Sheet

Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 0.82
Solubility	: Soluble
Log Pow	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: Not explosive
Oxidizing properties	: Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Hazardous polymerization will not occur.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Bacillus thuringiensis ssp. israelensis (68038-71-1)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 2.04 mg/l/4h
Bacillus sphaericus (143447-72-7)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 2.04 mg/l/4h

GHS-US Properties	Classification
Acute toxicity	Not classified
Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Respiratory or skin sensitization	May cause an allergic skin reaction.
Germ cells mutagen	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicant (single exposure)	Not classified

FourStar Briquets

Safety Data Sheet

Specific target organ toxicant (repeated exposure)	Not classified
Aspiration hazard	Not classified

Potential health effects

Inhalation

Acute : Under normal conditions of use, no health effects are expected.

Skin

Acute : Exposure may cause mechanical irritation, May cause an allergic reaction in individuals with a sensitivity to *Bacillus thuringiensis* ssp. *israelensis* and/or *Bacillus sphaericus*.

Eye

Acute : Exposure may cause mechanical eye irritation.

Ingestion

Acute : Under normal conditions of use, no health effects are expected.

Mutagenicity : Not classified.

Carcinogenicity : Not classified.

Reproductive Effects : Not classified.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

SECTION 14: Transport information

	UN number	Proper Shipping Name	Transport hazard class(es)	Packing group	Environmental hazards
DOT	Not regulated	Not regulated	Not regulated	Not regulated	Not applicable
IMDG	Not regulated	Not regulated	Not regulated	Not regulated	Not applicable
IATA	Not regulated	Not regulated	Not regulated	Not regulated	Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

FourStar Briquets

Safety Data Sheet

Bacillus thuringiensis ssp. israelensis (68038-71-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under Chemical Data Reporting Rule (formerly the Inventory Update Reporting Rule), i.e, Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 711).
FIFRA Labelling	
EPA Registration Number	83362-3
This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.	
FIFRA Signal word	Caution
FIFRA Precautionary Statement	KEEP OUT OF REACH OF CHILDREN.
FIFRA Hazards to Humans and Domestic Animals	Harmful if inhaled. Causes moderate eye irritation. Avoid contact with eyes or clothing. Avoid contact with skin, eyes or clothing. Avoid breathing dust. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.
FIFRA First Aid	If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth if possible. Call poison control center or doctor for treatment advice. If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing eye. Call poison control center or doctor for treatment advice. If on skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call poison control center or doctor for treatment advice.
FIFRA Environmental Hazards	Do not apply to treated, finish drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

15.2. US State regulations

No additional information available

SECTION 16: Other information

Date of issue : 30 April 2014
Revision date : 10 May 2018
Supersedes : 09 June 2016

Indication of changes:
SDS update.

SDS US (GHS HazCom 2012) - CGP

The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.

FOURSTAR®



Bti CRG

Specimen Label

Multi-Brood Controlled Release Granule

ACTIVE INGREDIENTS:

<i>Bacillus thuringiensis</i> subspecies <i>israelensis</i> Strain BMP 144 solids, spores and insecticidal toxins*	10%
OTHER INGREDIENTS:	90%
TOTAL:	100%

* Equivalent to 700 International Toxic Units (ITU/mg).

Note: The percent active ingredient does not indicate product performance, and potency measurements are not federally standardized.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS – CAUTION:

Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

Mixers/loaders and applicators not in enclosed cabs or aircraft must wear gloves and a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

FIRST AID	
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible. • Call poison control center or doctor for treatment advice.
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing eyes. • Call poison control center or doctor for treatment advice.
If on skin	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call poison control center or doctor for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-248-7763 for emergency medical treatment information.	

ENVIRONMENTAL HAZARDS:

Do not contaminate water when disposing of equipment washwaters or rinsate. Do not apply to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

DIRECTIONS FOR USE

It is a violation of Federal law to apply this product in a manner inconsistent with its labeling.

APPLICATION DIRECTIONS

FourStar® Bti CRG is a highly selective multi-brood microbial insecticide granule effective against mosquito larvae in a variety of aquatic habitats for up to 40 days or more. **FourStar® Bti CRG** releases effective levels of *Bacillus thuringiensis* subspecies *israelensis* to the water surface and throughout the water column over time.

FourStar® Bti CRG can be applied prior to flooding (i.e., "pre-hatch") to known breeding sites that flood intermittently. In such areas, one application of **FourStar® Bti CRG** prevents adult mosquito emergence for up to four subsequent floodings. The actual length of control depends on the duration and frequency of flooding events. Alternate wetting and drying will not reduce granule effectiveness.

Apply uniformly according to rates listed below by conventional aerial or ground equipment as needed to maintain mosquito control. Reapply after 40 days under typical environmental conditions. More frequent applications may be made if monitoring indicates that larval populations have reestablished or weather conditions have rendered initial treatments ineffective.

APPLICATION SITES

Apply **FourStar® Bti CRG** pre-hatch or post-hatch as directed above to temporary and permanent water sites, which support mosquito larval development. **FourStar® Bti CRG** can be applied to areas that contain aquatic life, fish and plants, as well as areas in contact with humans, animals, horses, livestock, pets, birds, or wildlife.

Examples of application sites include: tidal water, salt marshes, mangroves, estuaries, freshwater marshes, cattail marshes, woodland pools and meadows, grassy swales, floodplains, flood water, standing water, roadside ditches, canals, woodland pools, catch basins, storm drains, storm water collection areas, retention and detention impoundments, lakes and ponds, abandoned swimming pools, water holding receptacles, and other natural and man-made sites where mosquitoes may develop.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential spray drift. The applicator and treatment coordinator are responsible for considering all these factors when making decisions.

APPLICATION RATES

To control mosquito larvae, apply 7.5 to 10 lbs of **FourStar® Bti CRG** per acre. Use 10 to 20 lbs of **FourStar® Bti CRG** per acre where late instar larvae predominate, larval populations are high, water is heavily polluted, and/or algae are abundant, or under conditions where local experience indicates the need for higher rates to achieve extended control.

NOTICE TO USER

To the extent consistent with applicable law, seller makes no warranty, express or implied, of merchantability, fitness, or otherwise concerning the use of this product other than as indicated on the label. To the extent consistent with applicable law, user assumes all risks of use, storage, or handling not in strict accordance with label instructions.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage: Store in a cool, dry place.

Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

Container Handling: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment by shaking and tapping sides and bottom to loosen clinging particles. Then offer for recycling if available, or dispose of empty bag in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.



Safety Data Sheet



Section 1: Identification

Product identifier

- Product Name** • **FourStar® Bti CRG Multi-Brood Controlled Release Granule**
- Product Code** • 100515259; 100515273; 100516237; EPA Reg. No.: 85685-4
- Chemical Category** • Bacillus thuringiensis subsp. Israelensis Serotype H14
- Product Description** • Tan granule.

Relevant identified uses of the substance or mixture and uses advised against

- Recommended use** • Multi-brood microbial insecticide granule
- Restrictions on use** • Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

Details of the supplier of the safety data sheet

- Manufacturer** • FourStar® Microbial Products, LLC
1501 E. Woodfield Road, Suite 200W
Schaumburg, IL 60173
United States
www.centralmosquitocontrol.com

Emergency telephone number

- Manufacturer (Transportation)** • 1-800-424-9300 - CHEMTREC
- Manufacturer** • 1-888-914-2082
- Manufacturer (Transportation)** • 1-703-527-3887 - CHEMTREC - Outside US Collect Calls Accepted

Section 2: Hazard Identification

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

- OSHA HCS 2012** • Carcinogenicity 2 - H351
Skin Sensitization 1 - H317
Specific Target Organ Toxicity Repeated Exposure 1 - H372

Label elements

OSHA HCS 2012

WARNING



Hazard statements

- May cause damage to organs through prolonged or repeated exposure Inhalation - H373
Suspected of causing cancer. - H351
Harmful if inhaled - H332
May cause an allergic skin reaction - H317

Precautionary statements

Prevention

- Do not breathe dust. - P260
Do not handle until all safety precautions have been read and understood. - P202
Obtain special instructions before use. - P201
Wear protective gloves/protective clothing/eye protection/face protection. - P280

Response

- Get medical advice/attention if you feel unwell. - P314
IF exposed or concerned: Get medical advice/attention. - P308+P313

Storage/Disposal

- Store locked up. - P405
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501
Refer to Section 13 - Disposal Considerations

Other hazards

OSHA HCS 2012

- No data available

Section 3 - Composition/Information on Ingredients

Substances

- Material does not meet the criteria of a substance according to United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Mixtures

Composition			
Chemical Name	Identifiers	%	Classifications According to Regulation/Directive
Bacillus thuringiensis	CAS:68038-71-1	10%	OSHA HCS 2012: Acute toxicity - Inhal. Cat. 4; Skin Sens. Cat. 1
Proprietary	Proprietary	70% TO 85%	OSHA HCS 2012: Carcinogen Cat. 2; STOT RE 1 - Resp.
Proprietary	Proprietary	< 1%	OSHA HCS 2012: Skin Irrit. 2; Eye Irrit. 2; Skin sens Cat. 1; STOT SE - 3(Resp.)
Proprietary	Proprietary	< 1%	OSHA HCS 2012: Not Classified- Criteria not met
Proprietary	Proprietary	1% TO 10%	OSHA HCS 2012: Not Classified- Criteria not met
Proprietary	Proprietary	10% TO 20%	OSHA HCS 2012: Comb. dust

Section 4: First-Aid Measures

Description of first aid measures

Inhalation • Move victim to fresh air. If not breathing, give artificial respiration. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin • Remove contaminated clothing and shoes. Rinse skin immediately with plenty of water for 15-20 minutes. Call a physician or poison control center.

Eye • Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. Call a physician or poison control center.

Ingestion • Get medical attention immediately if symptoms occur.

Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed

Section 5: Fire-Fighting Measures

Extinguishing media

Suitable Extinguishing Media • In case of fire use media as appropriate for surrounding fire.

Unsuitable Extinguishing Media • None known.

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards • Material is non-combustible and is not expected to pose a fire or explosion hazard.

Hazardous Combustion Products • No data available

Advice for firefighters

- Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions • Avoid contact with skin, eyes, and clothing. Wear appropriate personal protective equipment, avoid direct contact. Remove clothing and wash thoroughly before use.

Emergency Procedures • Use normal clean up procedures.

Environmental precautions

- Follow best practice for site management and disposal of waste. Avoid run off to waterways and sewers.

Methods and material for containment and cleaning up

Containment/Clean-up Measures • Use appropriate Personal Protective Equipment (PPE). Carefully shovel or sweep up spilled material and place in suitable container. Avoid generating dust.

Section 7 - Handling and Storage

Precautions for safe handling

Handling • Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Use good safety and industrial hygiene practices. Avoid contact with skin and eyes. Use only with adequate ventilation. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Avoid breathing dust.

Conditions for safe storage, including any incompatibilities

Storage • Store closed containers in a cool dry place. Do not contaminate water, food or feed by storage or disposal. Store in a well-ventilated place. Keep container tightly closed.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure Limits/Guidelines			
	Result	ACGIH	NIOSH
Proprietary (Proprietary)	TWAs	0.025 mg/m3 TWA (respirable fraction)	0.05 mg/m3 TWA (respirable dust)

Exposure Control Notations

ACGIH

•Proprietary : **Carcinogens:** (A2 - Suspected Human Carcinogen)

Exposure Limits Supplemental

OSHA

•Proprietary : **Mineral Dusts:** ((30)/(%SiO₂ + 2) mg/m3 TWA, total dust; (250)/(%SiO₂ + 5) mppcf TWA, respirable fraction; (10)/(%SiO₂ + 2) mg/m3 TWA, respirable fraction)

ACGIH

•Proprietary : **TLV Basis - Critical Effects:** (lung cancer; pulmonary fibrosis)

Exposure controls

Engineering

- Use adequate ventilation to remove vapors (fumes, dust etc)

Measures/Controls

Personal Protective Equipment

Pictograms



Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment. Not usually required. However, mixers/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95 or P-95.

Eye/Face

- Wear dust goggles.

Hands

- Wear appropriate gloves (nitrile rubber)

Skin/Body

- Wear protective gloves (nitrile rubber) and clothing to minimize skin contact.

General Industrial

- Wash thoroughly with soap and water after handling.

Hygiene Considerations

Environmental Exposure • Refer to Section 13 - Disposal Considerations.

Controls

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	granules
Color	tan	Odor	Mild
Taste	No data available	Particulate Type	Dust
Odor Threshold	No data available	Physical and Chemical Properties	No data available
General Properties			
Boiling Point	No data available	Melting Point	No data available
Decomposition Temperature	No data available	pH	No data available
Specific Gravity/Relative Density	2.6 Water=1	Bulk Density	51.2 lb(s)/ft ³
Water Solubility	Not soluble	Viscosity	No data available
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		
Flammability			
Flash Point	No data available	UEL	No data available
LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	Not Flammable.		
Environmental			
Octanol/Water Partition coefficient	No data available		

Section 10: Stability and Reactivity

Reactivity

- Non-reactive

Chemical stability

- Stable

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- None known.

Incompatible materials

- Alkalinity inactivates product. Avoid mixing with hydrogen fluoride.

Hazardous decomposition products

- No data available.

Section 11 - Toxicological Information

Information on toxicological effects

Component Name	CAS	Data
Proprietary (70% TO 85%)	Proprietary	Acute Toxicity: orl-rat TDLo:120 gm/kg; Tumorigen/Carcinogen: ihl-rat TCLo:50 mg/m ³ /6H/71W-l
Proprietary (10% TO 20%)	Proprietary	Acute Toxicity: orl-rat LD50:>8 gm/kg
Proprietary (< 1%)	Proprietary	Acute Toxicity: orl-rat LD50:>6 gm/kg; Reproductive: orl-rat TDLo:2500 mg/kg (1-22D preg)
Bacillus thuringiensis (10%)	68038-71-1	Acute Toxicity: Ingestion/Oral-Rat LD50 • 5000 mg/kg; Inhalation-Rat LC50 • 2.04 mg/L 4 Hour(s); Skin-Rabbit LD50 • 5000 mg/kg; Irritation: Eye-Rabbit • Mild irritation; Skin-Rabbit • Mild irritation

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012•Acute Toxicity - Dermal - Classification criteria not met; Acute Toxicity - Inhalation - Classification criteria not met; Acute Toxicity - Oral - Classification criteria not met
Aspiration Hazard	OSHA HCS 2012•Classification criteria not met
Carcinogenicity	OSHA HCS 2012•Carcinogenicity 2
Germ Cell Mutagenicity	OSHA HCS 2012•Classification criteria not met
Skin corrosion/Irritation	OSHA HCS 2012•Classification criteria not met
Skin sensitization	OSHA HCS 2012•Skin Sensitizer 1
STOT-RE	OSHA HCS 2012•Specific Target Organ Toxicity Repeated Exposure 1
STOT-SE	OSHA HCS 2012•Classification criteria not met
Toxicity for Reproduction	OSHA HCS 2012•Classification criteria not met
Respiratory sensitization	OSHA HCS 2012•Classification criteria not met
Serious eye damage/Irritation	OSHA HCS 2012•Classification criteria not met

Route(s) of entry/exposure • Inhalation, skin or eye contact, and ingestion.

Potential Health Effects

Inhalation

Acute (Immediate) • Under normal conditions of use, no health effects are expected.

Chronic (Delayed) • Repeated and prolonged exposure may be harmful. May cause damage to organs through prolonged or repeated exposure. Excessive inhalation of crystalline silica (quartz) may cause lung injury.

Skin

Acute (Immediate) • May cause mild irritation.

Chronic (Delayed) • No data available.

Eye

Acute (Immediate) • May cause moderate irritation.

Chronic (Delayed) • No data available.

Ingestion

Acute (Immediate) • Under normal conditions of use, no health effects are expected.

Chronic (Delayed) • No data available

Other

Chronic (Delayed) • Repeated and prolonged exposure may cause sensitization.

Carcinogenic Effects • Repeated and prolonged exposure may cause cancer.

Carcinogenic Effects			
	CAS	IARC	NTP
Proprietary	Proprietary	Group 1-Carcinogenic	Known Human Carcinogen

Section 12 - Ecological Information

Toxicity

- No data available

Persistence and degradability

- No data available.

Bioaccumulative potential

- No data available.

Mobility in Soil

- No data available.

Other adverse effects

Potential Environmental Effects • Do not contaminate water when disposing of equipment washwaters or rinsate. Do not apply to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

Section 13 - Disposal Considerations

Waste treatment methods

Product waste • Do not contaminate water, food, or feed by storage disposal. Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. Do not contaminate water when disposing of equipment washwaters or rinsate.

Packaging waste • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. Completely empty bag, then dispose of empty bag in trash. Do not reuse container.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport class(es)	hazard	Packing group	Environmental hazards
DOT	NDA	Not Regulated	NDA		NDA	NDA
IMO/IMDG	NDA	Not regulated	NDA		NDA	NDA
IATA/ICAO	NDA	Not regulated	NDA		NDA	NDA

Special precautions for user • No data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • No data available

Other information

IMO/IMDG
IATA/ICAO

- No data available
- No data available

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Chronic

FIFRA – Pesticide Labeling

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION

Hazard Statements

- Keep out of reach of children.

Precautionary Statements

- Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Remove clothing and wash thoroughly before use. Mixers/loaders and applicators not in enclosed cabs or aircraft must wear gloves and a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

First Aid

- IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth if possible. Call poison control center or doctor for treatment advice.
IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
IF ON SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER: Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

Environmental Hazards

- Do not contaminate water when disposing of equipment washwaters or rinsate. Do not apply to treated, finish drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.
- Do not contaminate water, food or feed by storage or disposal. PESTICIDE STORAGE: Store in a cool, dry place. PESTICIDE DISPOSAL: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments by industry). CONTAINER HANDLING: Non-refillable container. Do not reuse or refill this container. Completely empty bag into application equipment by shaking and tapping sides and bottom to loosen clinging particles. Then offer for recycling if available, or dispose of empty bag in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

Inventory		
Component	CAS	TSCA
<i>Proprietary</i>	<i>Proprietary</i>	Yes
Bacillus thuringiensis	68038-71-1	Yes
<i>Proprietary</i>	<i>Proprietary</i>	Yes
<i>Proprietary</i>	<i>Proprietary</i>	Yes
<i>Proprietary</i>	<i>Proprietary</i>	Yes
<i>Proprietary</i>	<i>Proprietary</i>	Yes

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• <i>Proprietary</i>	<i>Proprietary</i>	Not Listed
• <i>Proprietary</i>	<i>Proprietary</i>	Not Listed
• <i>Proprietary</i>	<i>Proprietary</i>	carcinogen, initial date 10/1/88 (airborne particles of respirable size)
• <i>Proprietary</i>	<i>Proprietary</i>	Not Listed
• <i>Proprietary</i>	<i>Proprietary</i>	Not Listed
•Bacillus thuringiensis	68038-71-1	Not Listed

Section 16 - Other Information

Last Revision Date	• 3/14/14
Preparation Date	• 3/14/14
Disclaimer/Statement of Liability	• The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IF MADE.



Specimen Label

Multi-Brood Granule

ACTIVE INGREDIENTS:

<i>Bacillus sphaericus</i> 2362, Serotype H5a5b, strain AML614*	3.0%
<i>Bacillus thuringiensis</i> subspecies <i>israelensis</i> Strain BMP 144 solids, spores and insecticidal toxins*	3.0%
OTHER INGREDIENTS:.....	94.0%
TOTAL:.....	100.0%

*Equivalent to 30 Bs ITU/mg and 210 Bti ITU/mg respectively. Note: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS – CAUTION:

Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Mixers / loaders must wear a dust / mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

ENVIRONMENTAL HAZARDS:

Do not contaminate water when disposing of equipment washwaters or rinsate. Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

FIRST AID	
If inhaled	<ul style="list-style-type: none"> Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible. Call a poison control center or doctor for treatment advice.
If in eyes	<ul style="list-style-type: none"> Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing eyes. Call a poison control center or doctor for treatment advice.
If on skin	<ul style="list-style-type: none"> Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-248-7763 for emergency medical treatment information.	

DIRECTIONS FOR USE

It is a violation of Federal law to apply this product in a manner inconsistent with its labeling.

APPLICATION DIRECTIONS

FourStar® MBG is a highly selective multi-brood microbial insecticide effective against mosquito larvae in a variety of aquatic habitats for up to 4 weeks. **FourStar MBG** releases effective levels of *Bacillus sphaericus* and *Bacillus thuringiensis* subspecies *israelensis* to the water surface and throughout the water column.

Apply uniformly according to rates listed below by aerial or conventional ground equipment. Reapply after 1 to 4 weeks under typical environmental conditions. More frequent applications may be made if monitoring indicates larval populations have reestablished or weather conditions have rendered initial treatments ineffective.

APPLICATION SITES

FourStar MBG can be applied to areas that contain aquatic life, fish and plants as well as areas in contact with humans, animals, horses, livestock, pets, birds or wildlife.

Examples of application sites include:

Natural and manmade aquatic sites such as lakes, ponds, canals, rivers and streams (including river & stream edges), floodplains, swamps, marshes, irrigation ditches, flood water, woodland pools, snow melt pools, livestock watering ponds and troughs, tidal water, salt marshes, mangroves, estuaries, drainage ditches, roadside ditches, retention, detention, and seepage ponds, sewage effluent, sewage lagoons, oxidation ponds, septic ditches, animal waste lagoons, impounded wastewater associated with fruit and vegetable processing, rice fields, pastures/hay fields, orchards (including citrus groves, peaches, almonds, dates, walnuts), asparagus fields, corn fields, cotton fields, alfalfa fields, vineyards.

Any location where water accumulates and remains standing for periods of time, except treated, finished drinking water for human consumption.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential spray drift. The applicator and treatment coordinator are responsible for considering all these factors when making decisions.

APPLICATION RATES

To control mosquito larvae, apply 5 to 10 lbs of **FourStar MBG** per acre. Use 10 to 20 lbs per acre where late instar larvae predominate, larval populations are high, water is heavily polluted and/or algae are abundant, or under conditions where local experience indicates the need for higher rates to achieve extended control.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage: Store in a cool, dry place.

Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

Container Handling: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment by shaking and tapping sides and bottom to loosen clinging particles. Then offer for recycling if available, or dispose of empty bag in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

NOTICE TO USER

To the extent consistent with applicable law, seller makes no warranty express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. To the extent consistent with applicable law, user assumes all risks of use, storage or handling not in strict accordance with label instructions.

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Trade name : FourStar MBG Multi-Brood Granule
 Synonyms : 100514310, 100519508, EPA Reg. No.: 85685-3

1.2. Recommended use and restrictions on use

Recommended use : Multi-brood microbial insecticide.
 Restrictions on use : Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption. Avoid contact with eyes, skin or clothing.

1.3. Supplier

Fourstar Microbial Products, LLC
 1501 E. Woodfield Road, Suite 200W
 Schaumburg, IL 60173 - United States

www.fourstarmicrobials.com

1.4. Emergency telephone number

Emergency number : 1-800-248-7763
 1-800-424-9300 - CHEMTREC
 1-703-527-3887 - CHEMTREC - Outside North America - Collect Calls Accepted

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin sensitization, Category 1	May cause an allergic skin reaction
Carcinogenicity Category 1A	May cause cancer
Specific target organ toxicity (repeated exposure) Category 1	Causes damage to organs through prolonged or repeated exposure

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS07

GHS08

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

May cause an allergic skin reaction
 May cause cancer
 Causes damage to organs (lungs) through prolonged or repeated exposure

Precautionary statements (GHS-US) :

Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Do not breathe dust/fume/gas/mist/vapors/spray.
 Avoid breathing dust/fume/gas/mist/vapors/spray.
 Wash hands, forearms and face thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Contaminated work clothing must not be allowed out of the workplace
 Wear protective gloves/protective clothing/eye protection/face protection.
 If on skin: Wash with plenty of water
 If exposed or concerned: Get medical advice/attention.
 Get medical advice/attention if you feel unwell.
 If skin irritation or rash occurs: Get medical advice/attention.
 Wash contaminated clothing before reuse.
 Store locked up.
 Dispose of contents/container to in accordance with local/regional/national/international regulations

FourStar MBG Multi-Brood Granule

Safety Data Sheet

Supplemental information : The finished product is not considered carcinogenic because of the product's physical form. The Hazard Statement "May Cause Cancer" is presented because a component of this product contains naturally occurring crystalline silica (quartz) which is classified as carcinogenic to humans if inhaled. Respiratory exposure to silica dust from the finished product is not expected to occur under normal conditions of use due to the manner in which the constituents are bound. The crystalline silica in the finished product is unlikely to pose personal exposure via inhalation in light of studies conducted that indicate there is minimal liberation of particulates from the product during extreme handling or transport.

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Bacillus sphaericus	(CAS-No.) 143447-72-7	3
Bacillus thuringiensis ssp. israelensis	(CAS-No.) 68038-71-1	3
Silica, crystalline - quartz	(CAS-No.) 14808-60-7	70 - 90

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid measures after skin contact : IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice and attention.

First-aid measures after ingestion : IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting unless directed to do so by medical personnel.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : Inhalation may cause irritation (cough, short breathing, difficulty in breathing).

Symptoms/effects after skin contact : May cause an allergic skin reaction.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Use extinguishing agent suitable for surrounding fire.

Unsuitable extinguishing media : Avoid heavy hose streams.

5.2. Specific hazards arising from the chemical

Fire hazard : Material is non-combustible and is not expected to pose a fire or explosion hazard.

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

FourStar MBG Multi-Brood Granule

Safety Data Sheet

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: Exposure controls/personal protection.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Sweep or scoop spills, dispose of any unusable material in approved landfill. Use appropriate PPE.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid dust formation. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

Incompatible materials : Strong oxidizers.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Silica, crystalline - quartz (14808-60-7)		
ACGIH	ACGIH TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
OSHA	OSHA PEL (TWA) (mg/m ³)	50 µg/m ³
IDLH	US IDLH (mg/m ³)	50 mg/m ³ (respirable dust)
NIOSH	NIOSH REL (TWA) (mg/m ³)	0.05 mg/m ³ (respirable dust)

8.2. Appropriate engineering controls

Appropriate engineering controls : Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Tan to gray granule in water soluble pouch.

Color : Tan to gray

Odor : Mild

Odor threshold : No data available

FourStar MBG Multi-Brood Granule

Safety Data Sheet

pH	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: 2100 kg/m3
Relative density	: 2.1
Solubility	: Slightly soluble
Log Pow	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: Not explosive
Oxidizing properties	: Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Bacillus sphaericus (143447-72-7)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 2.04 mg/l/4h
Bacillus thuringiensis ssp. israelensis (68038-71-1)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 2.04 mg/l/4h
Silica, crystalline - quartz (14808-60-7)	
Listed on IARC (International Agency for Research on Cancer), Listed as carcinogen on NTP (National Toxicology Program)	
IARC group	1 - Carcinogenic to humans
National Toxicity Program (NTP) Status	Known Human Carcinogens
In OSHA Hazard Communication Carcinogen list?	Yes

FourStar MBG Multi-Brood Granule

Safety Data Sheet

GHS-US Properties	Classification
Acute toxicity	Not classified
Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Respiratory or skin sensitization	May cause an allergic skin reaction.
Germ cells mutagen	Not classified
Carcinogenicity	May cause cancer.
Reproductive toxicity	Not classified
Specific target organ toxicant (single exposure)	Not classified
Specific target organ toxicant (repeated exposure)	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not classified

Potential health effects

Inhalation

Acute : Exposure to respirable crystalline silica is not expected during the normal use of this product. However, acute silicosis can occur with exposures to very high concentrations of respirable crystalline silica over a very short time period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough and weight loss.

Chronic : Exposure to respirable crystalline silica is not expected during normal use of this product. However, prolonged overexposure to respirable crystalline silica may cause lung disease (silicosis).

Skin

Acute : May cause an allergic reaction in individuals with a sensitivity to *Bacillus thuringiensis* ssp. *israelensis* and/or *Bacillus sphaericus*.

Eye

Acute : May cause mild mechanical irritation.

Ingestion

Acute : Under normal conditions of use, no health effects are expected.

Carcinogenicity

: Exposure to respirable crystalline silica dust from the finished product is not expected to occur due to the manner in which the constituents are bound, thus the finished product is not considered carcinogenic under conditions of normal use.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

SECTION 14: Transport information

UN number	Proper Shipping Name	Transport hazard class(es)	Packing group	Environmental hazards
-----------	----------------------	----------------------------	---------------	-----------------------

FourStar MBG Multi-Brood Granule

Safety Data Sheet

DOT	Not regulated	Not regulated	Not regulated	Not regulated	Not applicable
IMDG	Not regulated	Not regulated	Not regulated	Not regulated	Not applicable
IATA	Not regulated	Not regulated	Not regulated	Not regulated	Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Bacillus thuringiensis ssp. israelensis (68038-71-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

EPA TSCA Regulatory Flag

XU - XU - indicates a substance exempt from reporting under Chemical Data Reporting Rule (formerly the Inventory Update Reporting Rule), i.e, Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 711).

Silica, crystalline - quartz (14808-60-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

FIFRA Labelling

EPA Registration Number

85685-3

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

FIFRA Signal word

Caution

FIFRA Precautionary Statement

KEEP OUT OF REACH OF CHILDREN.

FIFRA Hazards to Humans and Domestic Animals

Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

FIFRA First Aid

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing eyes. Call poison control center or doctor for treatment advice. If on skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call poison control center or doctor for treatment advice.

FIFRA Environmental Hazards

Do not contaminate water when disposing of equipment washwaters or rinsate. Do not apply to treated, finish drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

15.2. US State regulations

No additional information available

SECTION 16: Other information

Date of issue : 31 March 2014
Revision date : 10 May 2018
Supersedes : 14 August 2017

Indication of changes:

Revised Sec. 1 - added material numbers.

SDS US (GHS HazCom 2012) - CGP

The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.



NATULAR® DT

Controls larvae of mosquitoes which may transmit Dengue, Chikungunya, or Zika. To be used in governmental mosquito control programs, by professional pest control applicators, or in other mosquito control operations.

Active Ingredient:

Spinosad (a mixture of Spinosyn A and Spinosyn D) 7.48%

Other Ingredients

Total 92.52%
100.00%

Contains 0.1 gram Spinosad per extended-release tablet. This product may absorb moisture; therefore, the weight of the tablet and percent by weight of active ingredient will vary with hydration.

U.S. Patent No. 5,362,634 and 5,496,931

Group

5

INSECTICIDE

Keep Out Of Reach Of Children

CAUTION

First Aid

If in eyes: •Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.
•Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-214-7753 for emergency medical treatment information.

Precautionary Statements**Hazards to Humans and Domestic Animals**

Caution: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear protective eyewear (such as goggles, face shield, or safety glasses). Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Environmental Hazards

This product is toxic to aquatic invertebrates. Non-target aquatic invertebrates may be killed in waters where this pesticide is used. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

Directions For Use

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Read all Directions for Use carefully before applying.

NATULAR® DT is a Naturalyte® insect product for killing mosquito larvae. This product's active ingredient, spinosad, is biologically derived from the fermentation of *Saccharopolyspora spinosa*, a naturally occurring soil organism.

Product Use PrecautionsIntegrated Pest Management (IPM) Programs

NATULAR® DT is intended to kill mosquito larvae. Mosquitoes are best controlled when an IPM program is followed. Larval control efforts should be managed through habitat mapping, active adult and larval surveillance, and integrated with other control strategies such as source reduction, public education programs, harborage or barrier adult mosquito control applications, and targeted adulticide applications.

Insecticide Resistance Management (IRM)

NATULAR® DT contains a Group 5 insecticide. Insect biotypes with acquired resistance to Group 5 insecticides may eventually dominate the insect population

if appropriate resistance management strategies are not followed. Currently, only spinetoram and spinosad active ingredients are classified as Group 5 insecticides. Resistance to other insecticide groups is not likely to impact the effectiveness of this product. Spinosad may be used in rotation with all other labeled products in a comprehensive IRM program.

To minimize the potential for resistance development, the following practices are recommended:

- Base insecticide use on comprehensive IPM and IRM programs.
- Do not use less than the labeled rates.
- Routinely evaluate applications for loss of effectiveness.
- Rotate with other labeled effective mosquito larvicides with different modes of action.
- Use insecticides with a different mode of action (different insecticide group) on adult mosquitoes so that both larvae and adults are not exposed to products with the same mode of action.
- Contact your local extension specialist, technical advisor, and /or Clarke representative for insecticide resistance management and/or IPM recommendations for the specific site and resistant pest problems.
- For further information or to report suspected resistance, you may contact your local Clarke representative by calling 800-323-5727.

Application Directions

NATULAR® DT is for use in artificial containers used for water collection to control the mosquito larvae of container breeding mosquitoes.

Artificial water containers may include drums, storage tanks, jars, roof top catchments, ornamental fish ponds, ornamental pools or fountains, unused swimming pools, bird baths, old tires, flower pots and urns, water gardens, floor drains, roof gutters and other water-holding receptacles.

Draining or discarding small containers that hold water is the most effective method for preventing mosquito breeding. To treat artificial water containers that cannot be drained or discarded, use 1 tablet to treat up to 192 liters (50 gallons).

Reapply after 60 days as needed.

Restrictions: Do not apply directly to treated, finished drinking water supply systems. Do not apply to waters that drain into public waterways.

Storage and Disposal

Do not contaminate water, food or feed by storage and disposal.

Pesticide Storage: Store in a cool dry place in original container only.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available, or dispose of empty container in a sanitary landfill or by incineration.

Warranty: To the extent consistent with applicable law, CLARKE MOSQUITO CONTROL PRODUCTS, INC. makes no warranty, express or implied, concerning the use of this product other than as indicated on the label. Buyer assumes all risk of use/handling of this material when use and/or handling is contrary to label instructions.

Produced by:

Clarke Mosquito Control Products, Inc.
159 N. Garden Ave
Roselle, IL 60172 USA
1-800-323-5727

EPA Reg. No.: 8329-602
EPA Est. No. Marked on Container
Lot No.: Marked on Container

Net Weight: 7.44 lbs
Net Contents: 2500 Tablets
Tablet Weight: 1.35g



SAFETY DATA SHEET

NATULAR™ DT

Effective Date: 1 June 2015

v.01

Page 1 of 6

SECTION 1. Identification of the Substance/Mixture and of the Company

1.1 Product Identifier

Formulation Identifier: Natular™ DT

EPA Registration Number: 8329-602

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Relevant Identified Uses: Insecticide for control of mosquito and midge larvae

Uses Advised Against: See product label for use restrictions

1.3 Details of the Supplier of the Safety Data Sheet

Clarke Mosquito Control Products, Inc.
675 Sidwell Court
St. Charles, IL 60174 U.S.A.
+1 (630) 894-2000
Email: Clarke@clarke.com

1.4 Emergency Telephone Number

24-Hour Medical Emergency: POISON CONTROL Toll-free (800) 214 – 7753

24-Hour Transportation Emergency: INFOTRAC (800) 535-5053

SECTION 2. Hazards identification

United States (US)
According to OSHA 29 CFR 1910.1200 HCS (2012)

2.2 Classification of the Substance or Mixture

Not Classified Product does not meet the classification criteria for acute, delayed, or physical hazard according to the 2012 OSHA HCS

Hazard Symbol(s): None

Signal Word: None

Hazard statements: None

Precautionary Statements: None

2.3 Other Hazards Not Classifiable Under OSHA 2012 HCS

See product label for any additional hazards

SECTION 3. Composition/Information on Ingredients

3.1 Components

Substance Name	CAS No.	Concentration % w/w
Spinosad:		7.48
Spinosyn A	131929-60-7	
Spinosyn D	131929-63-0	
Citric Acid, anhydrous	77-92-9	< 5 *

* The exact percentage (concentration) of composition has been withheld as trade secret.

Ingredients not identified are non-hazardous and/or are not required to be disclosed pursuant to 29 CFR 1910.1200 (2012), and are withheld as trade secret.

SECTION 4. First Aid Measures



SAFETY DATA SHEET

NATULAR™ DT

Effective Date: 1 June 2015

v.01

Page 2 of 6

4.1 Description of First Aid Measures

Eye Contact: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes then continue rinsing. Call a poison control center/doctor for treatment advice.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed.

Eye Contact: This product may release nuisance dust in handling or use. Dust may cause slight transient (temporary) eye irritation.

4.3 Indication of Immediate Medical Attention and Special Treatment

Treatment: Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. For medical treatment information, contact the poison control hotline at 1-800-214-7753. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

SECTION 5. Fire-Fighting Measures

5.1 Extinguishing Media

Suitable Extinguishing Media: Water Fog, Carbon Dioxide (CO₂), Dry Chemical, Foam

Unsuitable Extinguishing Media: None known

5.2 Special Hazards Arising From the Substance or Mixture

Specific Hazards: Under fire conditions some components may decompose. Combustion products may include CO and NOx.

5.3 Special Protective Equipment and Precautions for Fire-Fighters

Protection Against Fire: Wear positive pressure, self-contained breathing apparatus and protective firefighting clothing (includes fire-fighting helmet, coat, pants, boots, and gloves).

Special Procedures: Fight fires from a protected location. Dike fire control water for later disposal. Keep container cool by spraying with water.

SECTION 6. Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

General Precautions: Use appropriate protection (see section 8)

Environmental Precautions: Prevent product from entering into drains and waterways. Collect and dispose of this material and its container in accordance with national and regional regulations. If the product has contaminated surface water, inform the appropriate authorities. See Section 12 for additional ecological information.

6.2 Methods and Material for Containment and Cleaning Up

Clean Up Methods: Collect all material with shovel, other instrument, or by hand while using appropriate personal protection equipment, and place in closable marked containers.

SECTION 7. Handling and Storage

7.1 Precautions for Safe Handling

Handling: Keep out of reach of children. Do not take internally. Avoid contact with skin and eyes.

Hygiene Measures: Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

7.2 Conditions for Safe Storage, Including Any Incompatibilities



SAFETY DATA SHEET

NATULAR™ DT

Effective Date: 1 June 2015

v.01

Page 3 of 6

Storage: Product should be stored in compliance with local regulations. Store in a cool, dry, well-ventilated place in the original container. Protect from excessive heat and cold. Do not store near food, drink, animal feeding stuffs, pharmaceuticals, cosmetics or fertilizers. Keep out of reach of children.

SECTION 8. Exposure Controls / Personal Protection

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

8.1 Control Parameters

Component Name	CAS No.	List	Type	Value
Spinosyn A & Spinosyn D	131929-60-7 131929-63-0	DOW IHG	TWA	0.3 mg/m ³

8.2 Exposure controls

Engineering Controls: Use with adequate ventilation. Wash hands thoroughly after handling. Wash clothing before re-using.

Individual Protection Measures, such as Personal Protection Equipment:

Eye Protection: Safety Glasses, Goggles or Face Shield

Skin Protection: Wear suitable protective clothing

Hand Protection: It is good industrial hygiene practice to minimize skin contact. If required or preferred, use suitable protective chemical resistant gloves such as latex, nitrile, or neoprene.

Respiratory Protection: None required

SECTION 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Appearance: Solid, bi-layer tablet
Color: Tan/white
Odor: Earthy scent
Odor Threshold: Not Available
pH: 6.67
Melting Point: Not Determined
Freezing Point: Not Applicable
Initial Boiling Point: Not Applicable
Flash Point: Not Determined
Evaporation Rate: Not Applicable
Flammability: Not Determined
Explosion limits [U/L]: Not Applicable
Vapor Pressure: Not Applicable
Vapor Density: Not Applicable
Relative Density: 1.88 g/mL
Solubility: Not Determined
Partition Coefficient: Not Determined
Auto-Ignition Temperature: Not Determined
Viscosity: Not Applicable
Decomposition Temperature: Not Available
Explosive Properties: Not Available



SAFETY DATA SHEET

NATULAR™ DT

Effective Date: 1 June 2015

v.01

Page 4 of 6

Oxidizing Properties: Not Available

SECTION 10. Stability and Reactivity

10.1 Reactivity

Not Available

10.2 Chemical Stability

Stable under normal conditions

10.3 Possibility of Hazardous Reactions

Hazardous Reactions: None under normal conditions

Hazardous Polymerization: Not known to occur

10.4 Conditions to Avoid

Protect from direct sunlight and excessive heat.

10.5 Incompatible Materials

Avoid contact with strong oxidizing agents, strong acids, strong bases

10.6 Hazardous Decomposition Products

None known under normal conditions of storage and use

SECTION 11. Toxicological Information

11.1 Information on Likely Routes of Exposure

Eye Contact: This product may release nuisance dust in handling or use. Dust may cause slight transient (temporary) eye irritation.

11.2 Information on Toxicological Effects

Acute Toxicity

Oral, Rat LD₅₀ : > 2,000 mg/kg-bw

Dermal, Rat LD₅₀ : > 4,000 mg/kg-bw

Inhalation, Rat LC₅₀ : > 5.0 g/m³

Skin Corrosion/Irritation: Not a skin irritant

Serious Eye Damage/Irritation: Slight irritant

Skin Sensitization: Not a skin sensitizer

STOT – Single exposure No data is available to indicate product or any components present at greater than 0.1% present a specific target organ toxicity hazard from single exposure.

Chronic Toxicity/Effects

Germ Cell Mutagenicity: Not mutagenic

Carcinogenicity: Not carcinogenic. All components of this product are not classified as a carcinogen by OSHA, IARC, NTP, or Prop. 65. Spinosad is not carcinogenic.

Reproductive Effects: No data is available to indicate product or any components present at greater than 0.1% cause reproductive or teratogenic toxicity. For Spinosad: in laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.



SAFETY DATA SHEET

NATULAR™ DT

Effective Date: 1 June 2015

v.01

Page 5 of 6

STOT – Repeated Exposure: In animals, spinosad has been shown to cause vacuolation of cells in various tissues. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.

SECTION 12. Ecological Information

12.1 Ecotoxicity

Product specific data is not available. Data referenced is in relation to the active ingredient, Spinosad. Spinosad is moderately toxic to aquatic organisms on an acute basis (LC₅₀/EC₅₀ between 1 and 10 mg/L in the most sensitive species tested).

Toxicity to Fish: 96-hr Acute LC₅₀ 5.0 mg/L, Common Carp (*Cyprinus carpio*)
96-hr Acute LC₅₀ 5.9 mg/L, Bluegill Sunfish (*Lepomis macrochirus*)
96-hr Acute LC₅₀ 30 mg/L, Rainbow Trout (*Oncorhynchus mykiss*)

Toxicity to Aquatic Invertebrates: 48-hr Acute EC₅₀ 1.5-14.0 mg/L, Water Flea (*Daphnia magna*)
48-hr LC₅₀ > 7.9 mg/L, Mysid Shrimp (*Americamysis bahia*)

Toxicity to Aquatic Plants: 5-d EC₅₀ 8.1 mg/L, Blue Green Algae (*Anabaena flos-aquae*)

12.1 Persistence and Degradability

Product specific data not available. Data referenced is in relation to the active ingredient, Spinosad.

Log K_{ow}: Spinosyn A: 3.91; Spinosyn D: 4.38 (distilled water)

Bioaccumulation: Bioconcentration potential is low (BCF < 100)

Bioconcentration Factor: Spinosyn A: 19; Spinosyn D: 33 mL/g (fish)

Mobility in Soil: Potential for mobility in soil is low (K_{oc} between 500 and 2000)

Partition Coefficient, K_{oc}: 701

SECTION 13. Disposal Considerations

13.1 Waste Treatment and Disposal methods

Consult product label for disposal instructions. Avoid release to the environment. Improper disposal of excess product or rinsate is a violation of the Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA regional office for guidance.

SECTION 14. Transport Information

14.1 DOT (US)

Not regulated (Bulk and Non-Bulk Quantities)

14.2 IMDG (Vessel)

UN Number: 3077
Hazard Class: 9
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE SOLID, N.O.S. (Spinosad)
Marine Pollutant: Yes

14.3 ICAO/IATA (Air transport)

UN Number: 3077
Hazard Class: 9
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE SOLID, N.O.S.(Spinosad)



SAFETY DATA SHEET

NATULAR™ DT

Effective Date: 1 June 2015

v.01

Page 6 of 6

Environmental Hazard: Yes

SECTION 15. Regulatory Information

FIFRA Information: This chemical is a pesticide product regulated by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information for safety data sheet, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Signal Word: CAUTION

Keep Out Of Reach Of Children.

PRECAUTIONARY STATEMENTS: HAZARDS TO HUMANS AND DOMESTIC ANIMALS: CAUTION. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear protective eyewear (such as goggles, face shield, or safety glasses). Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Other Federal Regulations

SARA TITLE III CLASSIFICATION

Section 302: None

Section 311/312: Immediate (acute) hazard

Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372

None

CERCLA RQ: None

OSHA HAZARD COMMUNICATION STANDARD: This product is not considered a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. California Proposition 65: Not listed

STATE RIGHT-TO-KNOW : National, state, provincial or local emergency planning, community right-to-know or other laws, regulations or ordinances may be applicable--consult applicable national, state, provincial or local laws.

SECTION 16. Other Information

DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources we believe to be reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared as is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

™ NATULAR is a Trademark of Clarke Mosquito Control Products, Inc.

End of document



NATULAR® G

Mosquito Larvicide Granule

Controls larvae of mosquitoes which may transmit Zika, Dengue, or Chikungunya.
To be used in governmental mosquito control programs, by professional pest control operators, or in other mosquito or midge control operations.

Active Ingredient:	
Spinosad (a mixture of Spinosyn A and Spinosyn D)	0.5%
Other Ingredients	99.5%
Total	100.0%

Group

5

INSECTICIDE

KEEP OUT OF REACH OF CHILDREN

Precautionary Statements

Environmental Hazards

This product is toxic to aquatic invertebrates. Non-target aquatic invertebrates may be killed in water where this pesticide is used. Do not contaminate water when cleaning equipment or disposing of equipment washwaters. Do not apply when weather conditions favor drift from treated areas. Drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Apply this product only as specified on the label.

Directions For Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Read all Directions for Use carefully before applying.

Product Information

NATULAR® G is a product for killing mosquito and midge larvae. This product's active ingredient, spinosad, is biologically derived from the fermentation of *Saccharopolyspora spinosa*, a naturally occurring soil organism. NATULAR® G may be applied with suitable ground or aerial application equipment.

Use Precautions

Integrated Pest Management (IPM) Programs

NATULAR® G is intended to kill mosquito and midge larvae. Mosquitoes are best controlled when an IPM program is followed. Larval control efforts should be managed through habitat mapping, active adult and larval surveillance, and integrated with other control strategies such as source reduction, public education programs, harborage or barrier adult mosquito control applications, and targeted adulticide applications.

Insecticide Resistance Management (IRM)

NATULAR® G contains a Group 5 insecticide. Insect biotypes with acquired resistance to Group 5 insecticides may eventually dominate the insect population if appropriate resistance management strategies are not followed. Currently, only spinetoram and spinosad active ingredients are classified as Group 5 insecticides. Resistance to other insecticide groups is not likely to impact the effectiveness of this product. Spinosad may be used in rotation with all other labeled products in a comprehensive IRM program.

To minimize the potential for resistance development, the following practices are recommended:

- Base insecticide use on comprehensive IPM and IRM programs.
- Routinely evaluate applications for loss of effectiveness.

- Rotate with other labeled effective mosquito larvicides that have a different mode of action.
- In dormant rice fields, standing water within agricultural/crop sites, and permanent marine and freshwater sites, do not make more than 20 applications per year.
- Use insecticides with a different mode of action (different insecticide group) on adult mosquitoes so that both larvae and adults are not exposed to products with the same mode of action.
- Contact your local extension specialist, technical advisor, and/or Clarke representative for insecticide resistance management and/or IPM recommendations for the specific site and resistant pest problems.
- For further information or to report suspected resistance, you may contact your local Clarke representative by calling 800-323-5727.

Spray Drift Management

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making decisions. Where states have more stringent regulations, they should be observed.

Application

Proper application techniques help ensure adequate coverage and correct dosage necessary to obtain optimum kill of mosquito and midge larvae. Apply NATULAR® G prior to flooding as a pre-hatch application to areas that breed mosquitoes, or at any stage of larval development after flooding in listed sites. The following recommendations are provided for ground and aerial application of NATULAR® G.

Ground Application

Use conventional ground application equipment and apply NATULAR® G at the designated rate for the targeted site.

Spot Treatment

Apply NATULAR® G as a spot treatment to areas where mosquitoes are breeding at rates appropriate for the treatment site habitat and conditions.

Aerial Application

Equipment used in the application of NATULAR® G should be carefully calibrated before use and checked frequently during application to be sure it is working properly and delivering a uniform distribution pattern. Avoid overlaps that will increase NATULAR® G dosage above recommended limits.

Application Sites and Rates

The rates listed are typical for efficaciously killing mosquito and midge larvae in the listed habitat sites. Within this range, use lower rates when water is shallow, vegetation and/or pollution are minimal, and mosquito populations are low. Do not use less than labeled minimum rate. NATULAR® G may be applied at rates up to 20 lb per acre in waters high in organic content (such as polluted water, sewage lagoons, animal waste lagoons, and waters with high concentrations of leaf litter or other organic debris), deep-water mosquito habitats or those with dense surface cover, and where monitoring indicates a lack of kill at typical rates. Do not re-apply within 7 days of the initial application unless monitoring indicates that larval populations have reestablished or weather conditions have rendered initial treatments ineffective. Do not apply to water intended for irrigation.

For killing mosquito larvae species in the following non-crop sites:

Non-Crop Site	NATULAR® G lb/acre (lb ai/acre)
<p>Temporary Standing Water: Woodland pools, snow pools, roadside ditches, retention ponds, freshwater dredge spoils, tire tracks and other natural or man-made depressions, rock holes, pot holes and similar areas subject to holding water</p> <p>Other Freshwater Sites: Natural and manmade aquatic sites, edges of lakes, ponds, canals, stream eddies, creek edges, detention ponds</p>	3.5 - 6.5 (0.018 - 0.033)
<p>Freshwater Swamps and Marshes: Mixed hardwood swamps, cattail marsh, common reed wetland, water hyacinth ponds, and similar freshwater areas with emergent vegetation</p> <p>Marine/Coastal Areas: Intertidal areas above the mean high water mark, mangroves, brackish water swamps and marshes, coastal impoundments and similar areas</p>	9 (0.045)
<p>Stormwater/Drainage Systems: Storm sewers, catch basins, drainage ditches, and similar areas</p> <p>Wastewater: Sewage effluent, sewers, sewage lagoons, cesspools, oxidation ponds, septic ditches and tanks, animal waste lagoons and settling ponds, livestock runoff lagoons, wastewater impoundments associated with fruit and vegetable processing, and similar areas</p>	6.5 - 9 (0.033 - 0.045)
<p>Dormant Rice Fields: Impounded water in dormant rice fields (for application only during the interval between harvest and preparation of the field for the next cropping cycle)</p>	3.5 - 6.5 (0.018 - 0.033)
<p>Natural and Artificial Containers: Tree holes, bromeliads, leaf axils, and other similar natural water holding containers, cemetery urns, bird baths, flower pots, rain barrels, buckets, single tires, tires stockpiled in dumps, landfills, recycling plants and other similar areas, abandoned swimming pools, ornamental ponds, flooded roof tops and similar water holding sites.</p> <p>Landfill containers, salvage yards, abandoned vehicles</p> <p>Do not apply to natural or artificial containers of water intended for consumption by people, animals, or livestock.</p>	3.5 - 9 (0.018 - 0.045)

Agricultural/Crop Sites Where Mosquito Breeding Occurs:

Apply NATULAR® G at the rate of 3.5 to 9 lb per acre in standing water within agricultural/crop sites where mosquito breeding occurs: pastures/hay fields, rangelands, orchards, vineyards, and citrus groves. Do not apply to waters intended for irrigation.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Pesticide Storage: Store in original container only. In case of leak or spill, contain material with absorbent materials and dispose as waste.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site according to label use directions or at an approved waste disposal facility.

Container Handling for Non-Refillable Bag: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Container Handling for Rigid Refillable Tote: Refillable container. Refill this container with granular spinosad pesticide formulation only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment. Use a sprayer with water to quickly and completely rinse the interior of the container. Ensure the top, bottom, and all sides are rinsed. A high pressure sprayer with a rinsing nozzle could provide a thorough rinse of the interior. Drain and collect rinsate from the container into a collection system for later disposal. Drain the container dry so no water remains. Return to point of sale. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by State and local authorities.

Warranty

To the extent consistent with applicable law CLARKE MOSQUITO CONTROL PRODUCTS, INC. makes no warranty, express or implied, concerning the use of this product other than as indicated on the label. Buyer assumes all risk of use/handling of this material when use and/or handling is contrary to label instructions.

Natular® is a Registered Trademark of Clarke Mosquito Control Products, Inc.

IN CASE OF MEDICAL EMERGENCY, CALL THE INTERNATIONAL POISON CONTROL CENTER 1-800-214-7753

Manufactured By:
CLARKE MOSQUITO CONTROL PRODUCTS, INC.
159 North Garden Avenue
Roselle, IL 60172, U.S.A.
1-800-323-5727

EPA Reg. No.: 8329-80 NET WEIGHT: _____

EPA Est. No.: LOT: _____



SAFETY DATA SHEET

NATULAR® G

Effective Date: 14 February 2017

v.02

Page 1 of 7

SECTION 1. Identification of the Substance/Mixture and of the Company

1.1 Product Identifier

Formulation Identifier: Natular® G

EPA Registration Number: 8329-80

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Relevant Identified Uses: Insecticide for control of mosquito and midge larvae

Uses Advised Against: See product label for use restrictions

1.3 Details of the Supplier of the Safety Data Sheet

Clarke Mosquito Control Products, Inc.

675 Sidwell Court

St. Charles, IL 60174 U.S.A.

+1 (630) 894-2000

Email: Clarke@clarke.com

1.4 Emergency Telephone Number

24-Hour Medical Emergency: POISON CONTROL Toll-free (800) 214 – 7753

24-Hour Transportation Emergency: INFOTRAC (800) 535-5053

SECTION 2. Hazards identification

United States (US)

According to OSHA 29 CFR 1910.1200 HCS (2012)

2.2 Classification of the Substance or Mixture

Acute Toxicity (Inhalation): Category 4

Pictogram:



Signal Word: Warning

Hazard statements: Harmful if inhaled

Precautionary Statements: PREVENTION: Avoid breathing dust. Use only outdoors or in a well-ventilated area.

RESPONSE: If inhaled: Remove person to fresh air and keep comfortable for breathing.
Call a poison center or doctor if you feel unwell.

2.3 Other Hazards Not Classifiable Under OSHA 2012 HCS

See product label for any additional hazards

SECTION 3. Composition/Information on Ingredients



SAFETY DATA SHEET

NATULAR® G

Effective Date: 14 February 2017

v.02

Page 2 of 7

3.1 Components

Substance Name	CAS No.	Concentration % w/w
Spinosad:		0.5
Spinosyn A	131929-60-7	
Spinosyn D	131929-63-0	
Granulated Corncob	None Assigned	> 95

Ingredients not identified are non-hazardous and/or are not required to be disclosed pursuant to 29 CFR 1910.1200 (2012), and are withheld as trade secret.

SECTION 4. First Aid Measures

4.1 Description of First Aid Measures

If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed.

Inhalation: This product may release nuisance dust in handling or use. Exposure to dusts from this product may irritate the nose, throat, and upper respiratory tract. Prolonged exposure may result in mild salicylate intoxication which can cause symptoms including headache, dizziness, ringing in the ears, difficulty in hearing, dimness of vision, mental confusion, lassitude, sweating, thirst, hyperventilation, nausea, vomiting, and occasionally diarrhea.

4.3 Indication of Immediate Medical Attention and Special Treatment

Treatment: Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. For medical treatment information, contact the poison control hotline at 1-800-214-7753. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

SECTION 5. Fire-Fighting Measures

5.1 Extinguishing Media

Suitable Extinguishing Media: Water Fog, Carbon Dioxide (CO₂), Dry Chemical, Foam

Unsuitable Extinguishing Media: None known

5.2 Special Hazards Arising From the Substance or Mixture

Specific Hazards: Under fire conditions some components may decompose. Combustion products may include CO and NO_x.

5.3 Special Protective Equipment and Precautions for Fire-Fighters

Protection Against Fire: Wear positive pressure, self-contained breathing apparatus and protective firefighting clothing (includes fire-fighting helmet, coat, pants, boots, and gloves).

Special Procedures: Fight fires from a protected location. Dike fire control water for later disposal. Keep container cool by spraying with water.

SECTION 6. Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

General Precautions: Use appropriate protection (see section 8)

Environmental Precautions: Prevent product from entering into drains and waterways. Collect and dispose of this material and its container in accordance with national and regional regulations. If the



SAFETY DATA SHEET

NATULAR® G

Effective Date: 14 February 2017

v.02

Page 3 of 7

product has contaminated surface water, inform the appropriate authorities. See Section 12 for additional ecological information.

6.2 Methods and Material for Containment and Cleaning Up

Clean Up Methods: Collect all material with shovel or other instrument while using appropriate personal protection equipment, and place in closable marked containers. Use non-reactive absorbent to absorb small spills of rinsate and collect for disposal

SECTION 7. Handling and Storage

7.1 Precautions for Safe Handling

Handling: Keep out of reach of children. Do not take internally. Avoid inhalation of dusts from product.

Hygiene Measures: Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

Storage: Product should be stored in compliance with local regulations. Store in a cool, dry, well-ventilated place in the original container. Protect from excessive heat and cold. Do not store near food, drink, animal feeding stuffs, pharmaceuticals, cosmetics or fertilizers. Keep out of reach of children.

SECTION 8. Exposure Controls / Personal Protection

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

8.1 Control Parameters

Component Name	CAS No.	List	Type	Value
Spinosyn A & Spinosyn D	131929-60-7 131929-63-0	DOW IHG	TWA	0.3 mg/m ³
Granulated Corncob	None Assigned	OSHA	PEL	15 mg/m ³ (total)
				5 mg/m ³ (respirable)
		ACGIH	TLV	10 mg/m ³ (inhalable)
				3 mg/m ³ (respirable)

8.2 Exposure controls

Engineering Controls: Use with adequate ventilation. Wash hands thoroughly after handling. Wash clothing before re-using.

Individual Protection Measures, such as Personal Protection Equipment:

Eye Protection: Safety Glasses, Goggles or Face Shield

Skin Protection: Wear suitable protective clothing

Hand Protection: It is good industrial hygiene practice to minimize skin contact. If required or preferred, use suitable protective chemical resistant gloves such as nitrile, butyl rubber, or neoprene.

Respiratory Protection: A respirator is not required for normal use of this product. If needed or preferred, use suitable respiratory equipment such as a NIOSH standard N-95 respirator or dust mask.

SECTION 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Appearance: Solid, Granule

Color: Yellow / Tan

Odor: Orange fruity scent



SAFETY DATA SHEET

NATULAR® G

Effective Date: 14 February 2017

v.02

Page 4 of 7

Odor Threshold:	Not Available
pH:	7.50
Melting Point:	Not Determined
Freezing Point:	Not Applicable
Initial Boiling Point:	Not Applicable
Flash Point:	Not Determined
Evaporation Rate:	Not Applicable
Flammability:	Not Determined
Explosion limits [U/L]:	Not Applicable
Vapor Pressure:	Not Applicable
Vapor Density:	Not Applicable
Relative Density:	0.552 g/mL
Solubility:	Not Determined
Partition Coefficient:	Not Determined
Auto-Ignition Temperature:	Not Determined
Viscosity:	Not Applicable
Decomposition Temperature:	Not Available
Explosive Properties:	Not Available
Oxidizing Properties:	Not Available

SECTION 10. Stability and Reactivity

10.1 Reactivity

Not Available

10.2 Chemical Stability

Stable under normal conditions

10.3 Possibility of Hazardous Reactions

Hazardous Reactions: None under normal conditions

Hazardous Polymerization: Not known to occur

10.4 Conditions to Avoid

Protect from direct sunlight and excessive heat.

10.5 Incompatible Materials

Avoid contact with strong oxidizing agents, strong acids, strong bases

10.6 Hazardous Decomposition Products

None known under normal conditions of storage and use

SECTION 11. Toxicological Information

11.1 Information on Likely Routes of Exposure

Inhalation: This product may release nuisance dust in handling or use. Exposure to dusts from this product may irritate the nose, throat, and upper respiratory tract.

11.2 Information on Toxicological Effects



SAFETY DATA SHEET

NATULAR® G

Effective Date: 14 February 2017

v.02

Page 5 of 7

Acute Toxicity/Effects

Oral, Rat LD ₅₀ :	> 5,000 mg/kg-bw
Dermal, Rat LD ₅₀ :	> 5,000 mg/kg-bw
Inhalation, Rat LC ₅₀ :	> 2.10 mg/L
Skin Corrosion/Irritation:	Natular® G is not a skin irritant
Serious Eye Damage/Irritation:	Natular® G is not classified as an eye irritant according the OSHA 2012 HCS.
Skin Sensitization:	Natular® G is not a skin sensitizer
STOT – Single exposure	No data is available to indicate product or any components present at greater than 0.1% present a specific target organ toxicity hazard from single exposure.

Chronic Toxicity/Effects

Germ Cell Mutagenicity	This product has not been tested. No data is available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. Spinosad is not mutagenic.
Carcinogenicity:	This product does not contain any carcinogens as listed by OSHA, IARC, or NTP. Spinosad is not carcinogenic.
Reproductive Effects:	No data is available to indicate product or any components present at greater than 0.1% cause reproductive or teratogenic toxicity. For Spinosad: in laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.
STOT – Repeated Exposure:	In animals, spinosad has been shown to cause vacuolation of cells in various tissues. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.
Additional Information:	Prolonged exposure to vapors or dust may result in mild salicylate intoxication which can cause symptoms including headache, dizziness, ringing in the ears, difficulty in hearing, dimness of vision, mental confusion, lassitude, sweating, thirst, hyperventilation, nausea, vomiting, and occasionally diarrhea.

SECTION 12. Ecological Information

12.1 Ecotoxicity

Product specific data is not available. Data referenced is in relation to the active ingredient, Spinosad. Spinosad is moderately toxic to aquatic organisms on an acute basis (LC₅₀/EC₅₀ between 1 and 10 mg/L in the most sensitive species tested).

Toxicity to Fish:	96-hr Acute LC ₅₀ 5.0 mg/L, Common Carp (<i>Cyprinus carpio</i>) 96-hr Acute LC ₅₀ 5.9 mg/L, Bluegill Sunfish (<i>Lepomis macrochirus</i>) 96-hr Acute LC ₅₀ 30 mg/L, Rainbow Trout (<i>Oncorhynchus mykiss</i>)
Toxicity to Aquatic Invertebrates:	48-hr Acute EC ₅₀ 1.5-14.0 mg/L, Water Flea (<i>Daphnia magna</i>) 48-hr LC ₅₀ > 7.9 mg/L, Mysid Shrimp (<i>Americamysis bahia</i>)
Toxicity to Aquatic Plants:	5-d EC ₅₀ 8.1 mg/L, Blue Green Algae (<i>Anabaena flos-aquae</i>)

12.1 Persistence and Degradability

Product specific data not available. Data referenced is in relation to the active ingredient, Spinosad.

Log K _{ow} :	Spinosyn A: 3.91; Spinosyn D: 4.38 (distilled water)
Bioaccumulation:	Bioconcentration potential is low (BCF < 100)



SAFETY DATA SHEET

NATULAR® G

Effective Date: 14 February 2017

v.02

Page 6 of 7

Bioconcentration Factor: Spinosyn A: 19; Spinosyn D: 33 mL/g (fish)
Mobility in Soil: Potential for mobility in soil is low (K_{oc} between 500 and 2000)
Partition Coefficient, K_{oc} : 701

SECTION 13. Disposal Considerations

13.1 Waste Treatment and Disposal methods

Consult product label for disposal instructions. Avoid release to the environment. Improper disposal of excess product or rinsate is a violation of the Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA regional office for guidance.

SECTION 14. Transport Information

14.1 DOT (US)

Not regulated (Bulk and Non-Bulk Quantities)

14.2 IMDG (Vessel)

UN Number: 3077
Hazard Class: 9
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE SOLID, N.O.S. (Spinosad)
Marine Pollutant: Yes

14.3 ICAO/IATA (Air transport)

UN Number: 3077
Hazard Class: 9
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE SOLID, N.O.S. (Spinosad)
Environmental Hazard: Yes

SECTION 15. Regulatory Information

FIFRA Information: This chemical is a pesticide product regulated by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information for safety data sheet, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Signal Word: CAUTION

Keep Out of Reach of Children

PRECAUTIONARY STATEMENTS: HAZARDS TO HUMANS AND DOMESTIC ANIMALS: Causes moderate eye irritation.

Avoid contact with eyes or clothing. Wear protective eyewear. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

First Aid

If in eyes: Hold eye open and rinse slowly and gently with warm water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-214-7753 for emergency medical treatment information.

Other Federal Regulations

SARA TITLE III CLASSIFICATION

Section 302: None



SAFETY DATA SHEET

NATULAR® G

Effective Date: 14 February 2017

v.02

Page 7 of 7

Section 311/312: Immediate (acute) hazard

Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372

None

CERCLA RQ: None

OSHA HAZARD COMMUNICATION STANDARD: This product is considered a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. California Proposition 65: Not listed

STATE RIGHT-TO-KNOW : National, state, provincial or local emergency planning, community right-to-know or other laws, regulations or ordinances may be applicable--consult applicable national, state, provincial or local laws.

SECTION 16. Other Information

DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources we believe to be reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared as is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

© NATULAR is a Registered Trademark of Clarke Mosquito Control Products, Inc.

End of document



NATULAR[®] XRT

Mosquito Larvicide / Extended Release Tablet

Controls larvae of mosquitoes which may carry Dengue, Chikungunya, and Zika.

To be used in governmental mosquito control programs, by professional pest control operators, or in other mosquito or midge control operations.

Active Ingredient (dry weight basis):	
Spinosad (a mixture of spinosyn A and spinosyn D)	6.25%
Other ingredients	93.75%
Total	100.00%

U.S. Patent No. 5,362,634 and 5,496,931

Natular XRT is a 6.25% tablet. This product may absorb moisture; therefore, the weight of the tablet and percent by weight of active ingredient will vary with hydration.

Group	5	INSECTICIDE
-------	---	-------------

Keep Out Of Reach Of Children

CAUTION

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

Harmful if swallowed. Causes moderate eye irritation. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Avoid contact with eyes or clothing. Wear protective eyewear (such as goggles, face shield, or safety glasses).

First Aid

If swallowed:	<ul style="list-style-type: none"> Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything to an unconscious person.
If in eyes:	<ul style="list-style-type: none"> Hold eye open and rinse slowly and gently with warm water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-214-7753 for emergency medical treatment information.

Environmental Hazards

This product is toxic to aquatic organisms. Non-target aquatic invertebrates may be killed in waters where this pesticide is used. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Read all Directions for Use carefully before applying.

Product Information

Natular XRT is a product for killing mosquito and midge larvae. This product's active ingredient, spinosad, is biologically derived from the fermentation of *Saccharopolyspora spinosa*, a naturally occurring soil organism. Natular XRT tablets release effective levels of spinosad over a period up to 180 days in mosquito breeding sites. The tablet is designed for easy application to catch basins.

Release of spinosad is affected by the dissolution of the Natular XRT tablet. If tablets become covered by obstructions such as debris, vegetation, or loose sediment as a result of high rainfall or flow, normal dispersion of the active ingredient can be inhibited. Water flow may increase the dissolution of the tablet, thus reducing the residual life of the tablet. Inspect areas of water flow to determine appropriate re-treatment intervals. To assure positive results, place Natular XRT tablets where they will not be swept away by flushing action.

Use Precautions

Integrated Pest Management (IPM) Programs

Natular XRT is intended to kill mosquito and midge larvae. Mosquitoes are best controlled when an IPM program is followed. Larval control efforts should be managed through habitat mapping, active adult and larval surveillance, and integrated with other control strategies such as source reduction, public education programs, harborage or barrier adult mosquito control applications, and targeted adulticide applications.

Insecticide Resistance Management (IRM)

Natular XRT contains a Group 5 insecticide. Insect biotypes with acquired resistance to Group 5 insecticides may eventually dominate the insect population if appropriate resistance management strategies are not followed. Currently, only spinetoram and spinosad active ingredients are classified as Group 5 insecticides. Resistance to other insecticide groups is not likely to impact the effectiveness of this product. Spinosad may be used in rotation with all other labeled products in a comprehensive IRM program.

To minimize the potential for resistance development, the following practices are recommended:

- Base insecticide use on comprehensive IPM and IRM programs.
- Do not use less than the labeled rates.
- Routinely evaluate applications for loss of effectiveness.
- Rotate with other labeled effective mosquito larvicides that have a different mode of action.
- In dormant rice fields, standing water within agricultural/crop sites, and permanent marine and freshwater sites, do not make more than 3 applications per year.
- Use insecticides with a different mode of action (different insecticide group) on adult mosquitoes so that both larvae and adults are not exposed to products with the same mode of action.
- Contact your local extension specialist, technical advisor, and/or Clarke representative for insecticide resistance management and/or IPM recommendations for the specific site and resistant pest problems.
- For further information or to report suspected resistance, you may contact your local Clarke representative by calling 800-323-5727.

Application

Proper application techniques help ensure adequate coverage and correct dosage necessary to obtain optimum kill of mosquito and midge larvae. Natular XRT tablets can be applied prior to flooding, on snow and ice in breeding sites prior to spring thaw, or at any time after flooding in listed sites. Under normal conditions, one application will last the entire mosquito season, or up to 180 days, whichever is shorter. Natular XRT tablets will be unaffected in dry down situations and will begin working again during subsequent wetting events until the tablet is exhausted. Note: Natular XRT has no effect on mosquitoes which have reached the pupal or adult stage prior to treatment.

Application Sites and Rates

Natular XRT tablets are designed to kill mosquitoes in natural and manmade depressions that hold water. Do not apply to water intended for irrigation. Examples of application sites are:

Storm water drainage areas, sewers and catch basins, woodland pools, snow pools, roadside ditches, retention ponds, freshwater dredge spoils, tire tracks, rock holes, pot holes and similar areas subject to holding water.

Natural and manmade aquatic sites, fish ponds, ornamental ponds and fountains, other artificial water-holding containers, flooded crypts, transformer vaults, abandoned swimming pools, construction and other natural or man-made depressions.

Stream eddies, creek edges, detention ponds.

Freshwater swamps and marshes including mixed hardwood swamps, cattail marsh, common reed wetland, water hyacinth ponds, and similar freshwater areas with emergent vegetation.

Brackish water swamps and marshes, intertidal areas.

Sewage effluent, sewers, sewage lagoons, cesspools, oxidation ponds, septic ditches and tanks, animal waste lagoons and settling ponds, livestock runoff lagoons, wastewater impoundments associated with fruit and vegetable processing and similar areas.

Also for use in dormant rice fields (for application only during the interval between harvest and preparation of the field for the next cropping cycle) and in standing water within agricultural areas where mosquito breeding occurs: pastures/hay fields, rangeland, orchards, vineyards, and citrus groves. Do not apply to waters intended for irrigation.

For mosquito kill in non- or low-flow, shallow depressions (up to 2 feet in depth) treat on the basis of surface area placing 1 Natular XRT tablet per 100 sq ft. Place tablets in the lowest areas of mosquito breeding sites to maintain continuous kill as the site alternately floods and dries up.

Natular XRT Application Chart

Number of Tablets per 100 sq. ft.	Water Depth (ft)
1	0 - 2
2	2 - 4
3	4 - 6
4	6 - 8

For applications in storm water drainage areas, sewers and catch basins, place 1 Natular XRT tablet into each catch basin.

For application sites connected by a water system, i.e., storm drains or catch basins, treat all of the water holding sites in the system to maximize the efficiency of the treatment program.

For application to small contained sites which may not be amenable to a rate of a single tablet per 100 sq ft, use 1 tablet per contained site (e.g., cesspools and septic tanks, transformer vaults, abandoned pools, and other small artificial water-holding containers).

Restriction: Do not apply to natural or artificial containers of water intended for consumption by people, animals, or livestock.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage and disposal.

Pesticide Storage: Store in a cool dry place in original container only.

Pesticide Disposal: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling:

For Refillable Container: Refillable container. Refill this container with spinosad pesticide formulation only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

For Nonrefillable Container: Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

WARRANTY: To the extent consistent with applicable law, Clarke Mosquito Control Products, Inc. makes no warranty, express or implied, concerning the use of this product other than as indicated on the label. Buyer assumes all risk of use/handling of this material when use and/or handling is contrary to label instructions.

Natular® is a Registered Trademark of Clarke Mosquito Control Products, Inc.

Manufactured For:
Clarke Mosquito Control Products, Inc.
159 North Garden Avenue
Roselle, Illinois 60172 U.S.A.
1-800-323-5727

EPA Reg. No.: 8329-84

EPA Est. No.: _____

Net Weight: _____

Lot No.: _____



SAFETY DATA SHEET

NATULAR™ XRT

Effective Date: 1 June 2015

v.01

Page 1 of 6

SECTION 1. Identification of the Substance/Mixture and of the Company

1.1 Product Identifier

Formulation Identifier: Natular™ XRT

EPA Registration Number: 8329-84

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Relevant Identified Uses: Insecticide for control of mosquito and midge larvae

Uses Advised Against: See product label for use restrictions

1.3 Details of the Supplier of the Safety Data Sheet

Clarke Mosquito Control Products, Inc.
675 Sidwell Court
St. Charles, IL 60174 U.S.A.
+1 (630) 894-2000
Email: Clarke@clarke.com

1.4 Emergency Telephone Number

24-Hour Medical Emergency: POISON CONTROL Toll-free (800) 214 – 7753

24-Hour Transportation Emergency: INFOTRAC (800) 535-5053

SECTION 2. Hazards identification

United States (US)
According to OSHA 29 CFR 1910.1200 HCS (2012)

2.2 Classification of the Substance or Mixture

Not Classified

Hazard Symbol(s): None

Signal Word: None

Hazard statements: None

Precautionary Statements: None

2.3 Other Hazards Not Classifiable Under OSHA 2012 HCS

See product label for any additional hazards

SECTION 3. Composition/Information on Ingredients

3.1 Components

Substance Name	CAS No.	Concentration % w/w
Spinosad:		6.25
Spinosyn A	131929-60-7	
Spinosyn D	131929-63-0	

Ingredients not identified are non-hazardous and/or are not required to be disclosed pursuant to 29 CFR 1910.1200 (2012), and are withheld as trade secret.

SECTION 4. First Aid Measures

4.1 Description of First Aid Measures



SAFETY DATA SHEET

NATULAR™ XRT

Effective Date: 1 June 2015

v.01

Page 2 of 6

Eye Contact: Hold eye open and rinse slowly and gently with warm water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes then continue rinsing. Call a poison control center/doctor for treatment advice.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed.

Eye Contact: This product may release nuisance dust in handling or use. Dust may cause slight transient (temporary) eye irritation.

4.3 Indication of Immediate Medical Attention and Special Treatment

Treatment: Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. For medical treatment information, contact the poison control hotline at 1-800-214-7753. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

SECTION 5. Fire-Fighting Measures

5.1 Extinguishing Media

Suitable Extinguishing Media: Water Fog, Carbon Dioxide (CO₂), Dry Chemical, Foam

Unsuitable Extinguishing Media: None known

5.2 Special Hazards Arising From the Substance or Mixture

Specific Hazards: Under fire conditions some components may decompose. Combustion products may include CO and NOx.

5.3 Special Protective Equipment and Precautions for Fire-Fighters

Protection Against Fire: Wear positive pressure, self-contained breathing apparatus and protective firefighting clothing (includes fire-fighting helmet, coat, pants, boots, and gloves).

Special Procedures: Fight fires from a protected location. Dike fire control water for later disposal. Keep container cool by spraying with water.

SECTION 6. Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

General Precautions: Use appropriate protection (see section 8)

Environmental Precautions: Prevent product from entering into drains and waterways. Collect and dispose of this material and its container in accordance with national and regional regulations. If the product has contaminated surface water, inform the appropriate authorities. See Section 12 for additional ecological information.

6.2 Methods and Material for Containment and Cleaning Up

Clean Up Methods: Collect all material with shovel, other instrument, or by hand while using appropriate personal protection equipment, and place in closable marked containers.

SECTION 7. Handling and Storage

7.1 Precautions for Safe Handling

Handling: Keep out of reach of children. Do not take internally. Avoid contact with skin and eyes.

Hygiene Measures: Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

7.2 Conditions for Safe Storage, Including Any Incompatibilities



SAFETY DATA SHEET

NATULAR™ XRT

Effective Date: 1 June 2015

v.01

Page 3 of 6

Storage: Product should be stored in compliance with local regulations. Store in a cool, dry, well-ventilated place in the original container. Protect from excessive heat and cold. Do not store near food, drink, animal feeding stuffs, pharmaceuticals, cosmetics or fertilizers. Keep out of reach of children.

SECTION 8. Exposure Controls / Personal Protection

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

8.1 Control Parameters

Component Name	CAS No.	List	Type	Value
Spinosyn A & Spinosyn D	131929-60-7 131929-63-0	DOW IHG	TWA	0.3 mg/m ³

8.2 Exposure controls

Engineering Controls: Use with adequate ventilation. Wash hands thoroughly after handling. Wash clothing before re-using.

Individual Protection Measures, such as Personal Protection Equipment:

Eye Protection: Safety Glasses, Goggles or Face Shield

Skin Protection: Wear suitable protective clothing

Hand Protection: It is good industrial hygiene practice to minimize skin contact. If required or preferred, use suitable protective chemical resistant gloves such as latex, nitrile, or neoprene.

Respiratory Protection: None required

SECTION 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Appearance:	Solid tablet
Color:	Tan/white
Odor:	Earthy scent
Odor Threshold:	Not Available
pH:	Not Determined
Melting Point:	Not Determined
Freezing Point:	Not Applicable
Initial Boiling Point:	Not Applicable
Flash Point:	Not Determined
Evaporation Rate:	Not Applicable
Flammability:	Not Determined
Explosion limits [U/L]:	Not Applicable
Vapor Pressure:	Not Applicable
Vapor Density:	Not Applicable
Relative Density:	1.766 g/mL
Solubility:	Not Determined
Partition Coefficient:	Not Determined
Auto-Ignition Temperature:	Not Determined
Viscosity:	Not Applicable
Decomposition Temperature:	Not Available
Explosive Properties:	Not Available



SAFETY DATA SHEET

NATULAR™ XRT

Effective Date: 1 June 2015

v.01

Page 4 of 6

Oxidizing Properties: Not Available

SECTION 10. Stability and Reactivity

10.1 Reactivity

Not Available

10.2 Chemical Stability

Stable under normal conditions

10.3 Possibility of Hazardous Reactions

Hazardous Reactions: None under normal conditions

Hazardous Polymerization: Not known to occur

10.4 Conditions to Avoid

Protect from direct sunlight and excessive heat.

10.5 Incompatible Materials

Avoid contact with strong oxidizing agents, strong acids, strong bases

10.6 Hazardous Decomposition Products

None known under normal conditions of storage and use

SECTION 11. Toxicological Information

11.1 Information on Likely Routes of Exposure

Eye Contact: This product may release nuisance dust in handling or use. Dust may cause slight transient (temporary) eye irritation.

11.2 Information on Toxicological Effects

Acute Toxicity/Effects*

*Acute toxicity values are not available for Natular™ XRT. Presented values are based on toxicity values of a product of similar composition and form.

Oral, Rat LD₅₀ : > 2,000 mg/kg-bw

Dermal, Rat LD₅₀ : > 4,000 mg/kg-bw

Inhalation, Rat LC₅₀ : > 5.0 g/m³

Skin Corrosion/Irritation: Not a skin irritant

Serious Eye Damage/Irritation: Slight irritant. Natular™ XRT is not classified as an eye irritant according to OSHA 2012 HCS

Skin Sensitization: Not a skin sensitizer

STOT – Single exposure No data is available to indicate product or any components present at greater than 0.1% present a specific target organ toxicity hazard from single exposure.

Chronic Toxicity/Effects

Germ Cell Mutagenicity

This product has not been tested. No data is available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. Spinosad is not mutagenic.

Carcinogenicity:

This product does not contain any carcinogens as listed by OSHA, IARC, or NTP. Spinosad is not carcinogenic.



SAFETY DATA SHEET

NATULAR™ XRT

Effective Date: 1 June 2015

v.01

Page 5 of 6

Reproductive Effects: No data is available to indicate product or any components present at greater than 0.1% cause reproductive or teratogenic toxicity. For Spinosad: in laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

STOT – Repeated Exposure: In animals, spinosad has been shown to cause vacuolation of cells in various tissues. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.

SECTION 12. Ecological Information

12.1 Ecotoxicity

Product specific data is not available. Data referenced is in relation to the active ingredient, Spinosad. Spinosad is moderately toxic to aquatic organisms on an acute basis (LC₅₀/EC₅₀ between 1 and 10 mg/L in the most sensitive species tested).

Toxicity to Fish: 96-hr Acute LC₅₀ 5.0 mg/L, Common Carp (*Cyprinus carpio*)
96-hr Acute LC₅₀ 5.9 mg/L, Bluegill Sunfish (*Lepomis macrochirus*)
96-hr Acute LC₅₀ 30 mg/L, Rainbow Trout (*Oncorhynchus mykiss*)

Toxicity to Aquatic Invertebrates: 48-hr Acute EC₅₀ 1.5-14.0 mg/L, Water Flea (*Daphnia magna*)
48-hr LC₅₀ > 7.9 mg/L, Mysid Shrimp (*Americamysis bahia*)

Toxicity to Aquatic Plants: 5-d EC₅₀ 8.1 mg/L, Blue Green Algae (*Anabaena flos-aquae*)

12.1 Persistence and Degradability

Product specific data not available. Data referenced is in relation to the active ingredient, Spinosad.

Log K_{ow}: Spinosyn A: 3.91; Spinosyn D: 4.38 (distilled water)

Bioaccumulation: Bioconcentration potential is low (BCF < 100)

Bioconcentration Factor: Spinosyn A: 19; Spinosyn D: 33 mL/g (fish)

Mobility in Soil: Potential for mobility in soil is low (K_{oc} between 500 and 2000)

Partition Coefficient, K_{oc}: 701

SECTION 13. Disposal Considerations

13.1 Waste Treatment and Disposal methods

Consult product label for disposal instructions. Avoid release to the environment. Improper disposal of excess product or rinsate is a violation of the Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA regional office for guidance.

SECTION 14. Transport Information

14.1 DOT (US)

Not regulated (Bulk and Non-Bulk Quantities)

14.2 IMDG (Vessel)

UN Number: 3077
Hazard Class: 9
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE SOLID, N.O.S. (Spinosad)
Marine Pollutant: Yes

14.3 ICAO/IATA (Air transport)



SAFETY DATA SHEET

NATULAR™ XRT

Effective Date: 1 June 2015

v.01

Page 6 of 6

UN Number: 3077
Hazard Class: 9
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE SOLID, N.O.S. (Spinosad)
Environmental Hazard: Yes

SECTION 15. Regulatory Information

FIFRA Information: This chemical is a pesticide product regulated by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information for safety data sheet, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Signal Word: CAUTION
Keep Out of Reach of Children

PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals: Harmful if swallowed. Causes moderate eye irritation. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Avoid contact with eyes or clothing. Wear protective eyewear (such as goggles, face shield, or safety glasses).

First Aid	
If swallowed:	<ul style="list-style-type: none">• Call a poison control center or doctor immediately for treatment advice.• Have person sip a glass of water if able to swallow.• Do not induce vomiting unless told to do so by a poison control center or doctor.• Do not give anything to an unconscious person.
If in eyes:	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with warm water for 15-20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.• Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-214-7753 for emergency medical treatment information.	

Other Federal Regulations

SARA TITLE III CLASSIFICATION

Section 302: None
Section 311/312: Immediate (acute) hazard
Section 313: None

CERCLA RQ: None

OSHA HAZARD COMMUNICATION STANDARD: This product is not considered a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. California Proposition 65: Not listed

STATE RIGHT-TO-KNOW : National, state, provincial or local emergency planning, community right-to-know or other laws, regulations or ordinances may be applicable--consult applicable national, state, provincial or local laws.

SECTION 16. Other Information

DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources we believe to be reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared as is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

™ NATULAR is a Trademark of Clarke Mosquito Control Products, Inc.

End of document

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION.

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Mixers / loaders and applicators not in enclosed cabs or aircraft must wear a dust / mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

USER SAFETY RECOMMENDATIONS

- Users should:**
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
 - Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS: Do not contaminate water when disposing of equipment washwaters or rinsate. Do not apply to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

DIRECTIONS FOR USE

It is a violation of Federal law to apply this product in a manner inconsistent with its labeling.

SPHERATAX SPH (50 G) is a highly selective microbial insecticide effective against mosquitoes in a variety of habitats. Apply SPHERATAX SPH (50 G) to any water sites except treated, finished water reservoirs or drinking water receptacles when the water is intended for human consumption. SPHERATAX SPH (50 G) can be applied to areas that contain aquatic life, fish and plants. SPHERATAX SPH (50 G) can be applied to areas used by or in contact with humans, animals, horses, livestock, pets, birds or wildlife.

APPLICATION DIRECTIONS

Mosquito species effectively controlled by SPHERATAX SPH (50 G).

- Aedes vexans*
- Anopheles quadrimaculatus*
- Cosquilittidia perturbans*
- Culex spp.*
- Ochlerotatus melaninon (Aedes melaninon)*
- Ochlerotatus nigromaculis (Aedes nigromaculis)*
- Ochlerotatus sollicitans (Aedes sollicitans)*
- Ochlerotatus stimulans (Aedes stimulans)*
- Ochlerotatus triseriatus (Aedes triseriatus)*
- Psorophora columbliae*
- Psorophora ferox*

For control of mosquito larvae from the list of affected species above in agricultural/non-crop sites where mosquito breeding occurs.



ACTIVE INGREDIENT:

Bacillus sphaericus, Serotype Hs5b, strain 2362[®] 5.00%

OTHER INGREDIENTS: 95.00%

TOTAL: 100.00%

* Equivalent to 50 *Bacillus sphaericus* International Toxic Units (BS ITU) per mg of product (0.023 billion BS ITU per lb of product). Potency units should not be used to adjust rates beyond those specified in the Directions for Use Section. **Note:** The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

FIRST AID

If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
-------------------	---

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

EPA Reg. No.: 84268-2

EPA Establishment No.: 9198-OH-1

Manufactured for:

ADVANCED MICROBIOLOGICS, LLC
1801 North Gale Road
Mitchell, SD 57301

under 6NYCRR Part 326

Classified for

“RESTRICTED USE”

in New York State

**ACCEPTED
FOR REGISTRATION**

7/7/09

Net Contents: 40 Lbs. / 18.14 Kgs
Batch Code:

New York State Department
of Environmental Conservation
Division of Solid & Hazardous Materials
Pesticide Product Registration

Habitats

Wastewater: Sewage effluent, sewage lagoons, oxidation ponds, septic ditches, animal waste lagoons, impounded wastewater associated with fruit and vegetable processing.

Rate/Acre
5.0 - 20 lbs

Storm Water/Drainage Systems:

Storm sewers, catch basins, drainage ditches, retention, detention, and seepage ponds.

5.0 - 20 lbs

Marine/Coastal Areas:

Salt marshes, mangroves, estuaries.

5.0 - 20 lbs

Water Bodies:

Natural and man-made aquatic sites such as lakes, ponds, rivers, canals, and streams.

5.0 - 20 lbs

Dormant Rice Fields:

Impounded water in dormant rice fields. (For application only during the interval between harvest and preparation of the field for the next cropping cycle.)

5.0 - 20 lbs

Use higher rates (10 - 20 lbs / acre) in areas where extended residual control is necessary, or in habitats having deep water or dense surface cover. Apply uniformly by aerial and conventional ground equipment. Reapply as needed after 1-4 weeks. Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential spray drift. The applicator and treatment coordinator are responsible for considering all these factors when making decisions.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. **Pesticide Storage:** Store in a cool, dry place.

Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

Container Disposal: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment by shaking and tapping sides and bottom to loosen clinging particles. Then offer for recycling if available, or dispose of empty bag in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances. If outside container is contaminated, dispose of in the same manner as the bag.

NOTICE TO USER

To the extent consistent with applicable law, seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with label instructions.

MATERIAL SAFETY DATA SHEET

SPHERATAX SPH (50 G) WSP

Manufacturer:
ADVANCED MICROBIOLOGICS LLC
11146 NW 69th Place
Parkland, Florida 33076
Tel: (954) 345 9321
Issue Date: March 15, 2010
TSCA Status: Exempt
Product Name: Spheratax SPH (50 G) WSP
Chemical Name: *Bacillus sphaericus*, Strain 2362, 5a5b
Dot Classification: Not Regulated
EPA Registration Number: 84268-2

HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

Name (CAS NO.)	OSHA PEL	ACGIH TLV
<i>Bacillus sphaericus</i>		
Serotype 5a5b		
Strain 2362		
Mixture considered hazardous per OSHA Criteria	NL	NL

PHYSICAL PROPERTIES:

Appearance: Tan Powder Potency: 50 BS ITU/mg.
Solubility: N/A
Boiling Point: N/A.
pH: N/A
Vapor Density: N/A
Viscosity: N/A
Melting Point: N/A
Vapor Pressure: N/A
Bulk Density: 25-35lbs/cubic foot

FIRE AND EXPLOSION DATA:

Flash Point: N/A
Extinguishing Media: Use appropriate media for cause of fire.
Special Fire Fighting Procedures: Wear protective clothing and self-contained breathing apparatus.
Unusual fire and explosion hazards: N/D

REACTIVITY:

Incompatibility: Do not expose to solutions with high alkalinity.
Hazardous Decomposition or Bi-products: N/D
Conditions to Avoid: N/D

HEALTH HAZARD INFORMATION:

Routes of Entry: Inhalation - No
Skin - No
Ingestion - No
Oral Toxicity: N/D. The acute oral LD₅₀ in both male and female rats was > 5,000 mg/kg b.w. for the technical powder used in the formulation indicating that the material is non-toxic by ingestion in single doses.

Dermal Toxicity: N/D. The acute dermal LD₅₀ in both male and female rabbits was found to be > 5,000 mg/kg b.w. for the technical powder used in the formulation indicating that the material no more than slightly toxic by a single skin application.
Dermal and Eye Irritation: The product is considered to be mildly irritating to rabbit eye and/or skin.
Dermal Sensitization: Appropriate skin sensitization studies in guinea pigs have indicated that the product is a contact sensitizing agent.
Inhalation Toxicity: N/D. The LC₅₀ in four-hour inhalation studies in rats was >2.04 mg/L (actual) of air, the maximum attainable concentration.

Corrosiveness: Non-corrosive.
SPHERATAX SPH (50 G) WSP

Carcinogenicity: NTP - NL
IARC - NL
OSHA - NL
ACGIH - NL

Signs and Symptoms of Exposure: N/D

Medical Conditions Aggravated by Exposure: N/D. Pre-existing eye lesions or lung disease.

Emergency and First Aid Procedures: Remove individual to fresh air. Seek medical attention if there is difficulty in breathing. If skin or eye contact occurs flush with plenty of water. If irritation occurs, seek medical attention. No known antidote.

SPECIAL HANDLING AND STORAGE:

Tightly reclose containers of unused materials. Do not contaminate water, food, or feed by storage or disposal. Store in a secure, cool, dry, well-ventilated room, building or covered area. Avoid temperatures above 85 degrees F.

SPILL OR LEAK PROCEDURES:

Absorb spill with an inert material, such as clay, and place in a container for disposal.

WASTE DISPOSAL:

Dispose of product in accordance with federal, state, and local regulations.

ADDITIONAL REGULATORY INFORMATION:

Sara Title III Data:

Section 311 and 312 Hazard Categories:

Immediate Health Hazard - None
Delayed Health Hazard - None
Fire Hazard - None
Reactive Hazard - None
Sudden Pressure Release Hazard - None

Section 302: Extremely Hazardous Substances - None

Section 313: Toxic Chemicals - None

CERCLA Reportable Quantity - Not Listed

The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.

Legend:

N/A = Not Applicable
N/D = Not Determined
N/L = Not Listed

Summit

B.t.i. BRIQUETS™

FLOATING SUSTAINED-RELEASE LARVICIDE FOR LONG-TERM CONTROL OF MOSQUITO AND PSYCHODID FLY LARVAE

BIOLOGICAL CONTROL OF MOSQUITOES & PSYCHODID FLIES

ACTIVE INGREDIENT: *Bacillus thuringiensis* subspecies *israelensis* solids, spores and insecticidal toxins.....10.31%

INERT INGREDIENTS:.....89.69%

7000 *Aedes aegypti* (AA) International Toxic Units (ITU) per milligram primary powder (Dry weight basis)

The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

PRECAUTIONARY STATEMENTS

Keep Out Of Reach Of Children

CAUTION

Hazard to Humans: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

Environmental Hazards: Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

FIRST AID

If in eyes

Hold eye open and rinse slowly and gently for 15-20 minutes.

Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.

Call poison control center or doctor for treatment advise.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Storage: Tightly close containers of unused briquets/dunks. Store in cool, dry well-ventilated place.

Disposal: Do not reuse empty carton or packaging material. Perforate or crush and discard carton according to local trash disposal regulations.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Summit *B.t.i.* BRIQUETS/DUNKS are formulated to release effective levels of Bti for a period of 30 days or more under typical environmental conditions. The floating action of the briquets/dunks will ensure that active material is released at the surface as well as gradually settle to the bottom.

These briquets/dunks may be used in all types of mosquito breeding areas. To prevent briquets/dunks from being flushed out of certain treatment sites, they can be anchored using string tied through the hole in the center or staked in place.

Summit *B.t.i.* BRIQUETS/DUNKS can also be used for pre-flood treatment. If the briquets/dunks are applied to dry areas which are known or suspected to become breeding sites when flooded, such as woodland pools and abandoned swimming pools, the briquets will float to the surface when flooding occurs and start releasing the active Bti material. Alternate wetting and drying will not reduce their effectiveness.

General Information; Mosquito Dunks float on water and will keep on working for 30 days or longer under typical environmental conditions. While floating, they slowly release a long-term, biological mosquito larvicide at the water's surface. This larvicide gradually settles in the water where it is eaten by mosquito larvae growing there. Mosquito Dunks may be used in all standing water sites where mosquito larvae grow. Alternate wetting and drying will not reduce their effectiveness.

APPLICATION RATES

Mosquito Larvae:

Flooded larvae breeding sites: Use one (1) Summit *B.t.i.* BRIQUET/DUNKS for up to 100 sq. ft. of surface area, regardless of depth. In water with a high organic content, such as sewage disposal systems or waste lagoons, the application rate may have to be increased to as much as four (4) times the normal dosage based upon evaluation by the user.

When larval populations are high, aquatic vegetation dense, or the water highly polluted at the time of briquet/dunks use, pre-treatment with SUMMIT MOSQUITO BITS® is recommended. The briquet/dunks will then suppress larval development for up to 30 days or more. Some larvae which hatch after briquet/dunks application may partially develop before dying. Allow a minimum of 48 hours for their control.

Pre-Flood treatment: Apply one (1) Summit *B.t.i.* BRIQUET/DUNKS to each 100 sq. ft. of dry bed surface which is known or suspected breeding site when flooded.

Evaporative Coolers: Apply one (1) Summit *B.t.i.* BRIQUET/DUNKS to each 100 sq. ft. of Cooler box or for smaller Coolers refer to the table below for application rate.

SAFE FOR USE IN FISH HABITATS

EACH DUNK KILLS MOSQUITOES FOR 30 DAYS OR LONGER KILLS MOSQUITOES BEFORE THEY ARE OLD ENOUGH TO BITE

Outdoor Use around the Household to kill Mosquito Larvae: Summit *B.t.i.*

BRIQUETS/DUNKS can be broken into portions for use in many outdoor applications near the household, such as standing water in bird baths, old automobile tires, rain barrels, ponds, abandoned or unused swimming pools (particularly above ground types), ditches, tree holes, roof gutters for collecting rainwater, flower pots, animal watering troughs or any other locations near the household where water collects and remains for periods of time. Summit *B.t.i.*

BRIQUETS/DUNKS can be broken and used as shown in the following table, the amount dependent upon the surface area of water in the treatment site. Mosquito Dunk / Bti Briquets may also be used in any containerized standing water found near the home.

Surface area of standing water	1 to 5 square ft.	5 to 25 square ft.	25 to 100 square ft.	Above 100 square ft.
Use Quantity	1/4 Briquet /Dunk	1/2 Briquet /Dunks	1 Briquet /Dunks	1 Briquet/Dunks per100 sq. ft.

Preflood treatment around the Household: Apply Summit *B.t.i.* BRIQUETS/DUNKS to any dry surface which is known to become flooded after a rain. Use the correct amount in accordance with the above dosage table.

INDOOR USE: For use in areas that collect water from time to time areas such as elevator shafts, basements that flood, sump pumps and any drainage areas within buildings. Use the correct amount in accordance with the above dosage table.

Psychodid Fly Larvae (Filter Flies, Sewage Flies, Drain Flies):

Waste WaterTreatment Plants: Place Summit *B.t.i.* BRIQUETS/DUNKS in a perforated basket, such as a minnow bait basket, and suspend the basket in the waste water stream before the water enters the trickling filter. Keep basket continuously filled with Briquets/Dunks to ensure a steady flow of Bti into the filter. The number of Briquets/Dunks needed for continuous, effective treatment in each facility will be dependent upon the volume and flow rate of the stream. This will have to be determined by the user.

Summit Chemical Co./SUMMIT RESPONSIBLE SOLUTIONS

Baltimore, MD 21224

EPA Registration No. 6218-47

EPA Est. No. 6218-MD-2

Net weight: 0.458 oz. per Briquet/Dunks

Or

13 grams per Briquet/Dunks

Contains 20 Briquets/Dunks

Lot. No:

Summit® Mosquito Dunks® / BTI Briquets (vers. 04/29/2015)

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday March 26 2012 / Rules and Regulations

SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product name: **Summit® Mosquito Dunks® / BTI Briquets**
USEPA Registration No.: 6218-47

1.2 Relevant identified uses of the substance or mixture and uses advised against

1.3 Details of the Supplier of the safety data sheet

Summit Chemical Company
235 S. Kresson Street
Baltimore, MD 21224-2616
800-227-8664
Summitchemical.com
US EPA Establishment No. 6218-MD-2

1.4 Emergency Telephone Number

CHEMTREC 800-262-8200

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of Substance or Mixture

Classification (GHS-US)
Not Classified

2.2 Label Elements

GHS-US Labeling
No labeling applicable

2.3 Other Hazards

No additional information available

2.4 Unknown Acute Toxicity

No Data Available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS MIXTURE

NAME	PRODUCT IDENTIFIER	%	CLASSIFICATION
<i>Bacillus thuringiensis</i> subspecies <i>israelensis</i> solids, spores and insecticidal toxins* 7,000 aedes egypti (AA) International Toxic Units (ITU) per mg of primary powder.	None: Microbial active ingredient	10.31	Not classified

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures

First Aid Measures General

: Never Give anything by mouth to an unconscious person. If You feel unwell, seek medical advice (show the label where possible)

First Aid Measures after Inhalation

: Assure fresh air breathing. Allow the victim to rest.

First Aid measures after skin contact

: Remove affected clothing and wash all exposed skin area with Mild soap and water, followed by warm water rinse.

First aid measures after skin contact

: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

First aid measures after ingestion

: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention

4.2 Most Important symptoms and effects, both acute and delayed

Symptoms/injuries

: Not expected to present a significant hazard under anticipated conditions of normal use.

4.3 Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media

: Foam. Dry powder. Carbon Dioxide. Water Spray. Sand

Unsuitable Extinguishing Media

: Do not use heavy water stream

5.2 Special Hazards Arising from the Substance or Mixture

No additional information available.

5.3 Advice For Firefighters

Firefighting instructions

: None

Protection during Firefighting

: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, Protective Equipment and Emergency Procedures

General Measures

: Isolate from fire, if possible, without unnecessary risk.

6.1.1 For Non-Emergency Personnel

Emergency Procedures

: Evacuate unnecessary personnel.

6.1.2 For Emergency Responders

Protective Equipment : Equip Cleanup crew with proper protection
Emergency Procedures : Ventilate Area

6.2 Environmental Precautions

Prevent entry to sewers and public waters.

6.3 Methods and Material for Containment and Cleaning Up

See Heading 8. Exposure controls and personal protection

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Precautions for Safe Handling : Wash hands and other exposed areas with mild soap and water before eating, drinking, smoking tobacco, or chewing gum and when leaving work.

7.2 Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions : Keep only in the original container with original label in a cool, well ventilated place away from Children. Keep Container closed when not in use.

Incompatible Products : Strong bases, acids.

Incompatible Materials : Sources of Ignition

7.3 Specific End Use(s)

No additional information available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters

<i>Bacillus thuringiensis</i> subspecies <i>israelensis</i> solids, spores and insecticidal toxins* 7,000 aedes egypti (AA) International Toxic Units (ITU) per mg of primary powder.		
USA ACGIH	ACGIH TWA (mg/m3)	5 mg/m3

8.2 Exposure Controls

Personal protective Equipment : Avoid all unnecessary exposure.
Hand protection : Wear protective gloves.
Eye Protection : Chemical Goggles or safety glasses.
Respiratory protection : Wear approved mask.
Other information : When using do not eat, drink, or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties

Physical State : Solid
Color : Light Brown
Odor : Mild
Odor Threshold : No data available.
pH : NA

Relative Evaporation rate (butyl acetate=1) : No data available
 Melting Point : No data available
 Freezing Point : No data available
 Boiling Point : No data available
 Flash Point : No data available
 Self Ignition Temperature : No data available
 Decomposition Temperature : No data available
 Flammability (solid, gas) : No data available
 Vapor Pressure : No data available
 Relative vapor density at 20 degrees C : No data available
 Relative density : No data available
 Density : No data available
 Solubility : No data available

9.2 Other Information

No additional information available.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No additional information available.

10.2 Chemical Stability

Stable under normal conditions

10.3 Possibility of hazardous reactions

Not established

10.4 Conditions to Avoid

Heat. Extremely High Temperatures

10.5 Incompatible Materials

No Data Available

10.6 Hazardous Decomposition Products

None

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

Acute Toxicity : Not classified

<i>Bacillus thuringiensis</i> subspecies <i>israelensis</i> solids, spores and insecticidal toxins* 7,000 aedes egypti (AA) International Toxic Units (ITU) per mg of primary powder.	
LD50 oral rat	➤ 10000 mg/kg (Rat)
LD50 dermal rabbit	➤ 10000 mg/kg (Rabbit)

Skin corrosion/irritation : Not classified

Serious Eye damage/irritation : Not classified

Respiratory or skin sensitization : Not Classified

Germ Cell Mutagenicity : Not Classified

Carcinogenicity : Not Classified

Bacillus thuringiensis subspecies *israelensis* solids, spores and insecticidal toxins*

7,000 aedes egypti (AA) International Toxic Units (ITU) per mg of primary powder.	
IARC Group	3- Not Classifiable

Reproductive Toxicity : Not Classified
 Specific Target Organ Toxicity (Single Exposure) : Not Classified
 Specific Target Organ Toxicity (Repeated Exposure) : Not Classified
 Aspiration Hazard : Not Classified
 Potential Adverse Human Health Effects and Symptoms : Based on available data, the classification criteria are not met

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

No additional information available.

12.2 Persistence and Degradability

Summit® Mosquito Dunks® BTI Briquets	
Persistence and Degradability	Not Established

Summit® Mosquito Dunks® BTI Briquets	
Persistence and Degradability	Contains readily biodegradable component(s)

12.3 Bioaccumulative Potential

Summit® Mosquito Dunks® BTI Briquets	
Bioaccumulative Potential	Not established

Summit® Mosquito Dunks® BTI Briquets	
Bioaccumulative Potential	No bioaccumulation data available.

12.4 Mobility in Soil

No additional information available

12.5 Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Waste Disposal Recommendations :Dispose in a safe manner in accordance with local/national regulations.
 Ecology – Waste Materials : Avoid Release into the environment

SECTION 14: TRANSPORT INFORMATION

In accordance with DOT
Non dangerous good in sense of transport regulations
Additional Information
Other information

: No supplementary information
Available

ADR

Transport document description
Transport by Sea
No additional information available.
Air Transport
No additional information available.

SECTION 15: REGULATORY INFORMATION

This chemical is a product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

CAUTION: KEEP OUT OF REACH OF CHILDREN

Causes moderate eye irritation.

15.1 US Federal Regulations

Summit® Mosquito Dunks® BTI Briquets
Not listed on the United States TSCA (Toxic Substances Control Act) Inventory

Summit® Mosquito Dunks® BTI Briquets
Not listed on the United States TSCA (Toxic Substances Control Act) Inventory

15.2 International Regulations

CANADA

No Additional Information Available

EU-Regulations

No Additional Information Available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified

15.3 US State Regulations

Summit® Mosquito Dunks® BTI Briquets

SECTION 16: OTHER INFORMATION

Other Information

: None

VectoBac[®] 12AS

BIOLOGICAL LARVICIDE

AQUEOUS SUSPENSION

Active Ingredient:

<i>Bacillus thuringiensis</i> , subsp. <i>israelensis</i> , strain AM 65-52, fermentation solids and solubles	11.61%
Other Ingredients	88.39%
Total	100.00%

Potency: 1200 International Toxic Units (ITU) per mg (Equivalent to 4.84 billion ITU per gallon, 1.279 billion ITU per liter)

There is no direct relationship between intended activity (potency) and the Percent Active Ingredient by Weight.

EPA Reg. No. 73049-38
EPA Est. No. 33762-IA-001

List No. 05605

INDEX:

- 1.0 First Aid
- 2.0 Precautionary Statements
 - 2.1 Hazard to Humans (and Domestic Animals)
 - 2.2 Physical and Chemical Hazards
- 3.0 Directions for Use
 - 3.1 Chemigation
- 4.0 Storage and Disposal
- 5.0 Application Directions
- 6.0 Nuisance Flies
- 7.0 Nuisance Aquatic Midges
- 8.0 Ground and Aerial Application
- 9.0 Small Quantity Dilution Rates
- 10.0 Chemigation
 - 10.1 Rice-Flood (Basin) Chemigation
- 11.0 Notice to User

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

1.0 FIRST AID	
If in eyes	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15-20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• Call a poison control center or doctor for treatment advice.
If on skin or clothing	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately with plenty of water for 15-20 minutes.• Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-315-9819 (24 hours) for emergency medical treatment and/or transport emergency information. For all other information, call 1-800-323-9597.	

2.0 PRECAUTIONARY STATEMENTS

2.1 HAZARD TO HUMANS (AND DOMESTIC ANIMALS) CAUTION

Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash contaminated clothing before reuse. Mixer/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

2.2 Physical and Chemical Hazards

Diluted or undiluted VectoBac 12AS can cause corrosion if left in prolonged contact with aluminum spray system components. Rinse spray system with plenty of clean water after use. Care should be taken to prevent contact with aluminum aircraft surfaces, structural components and control systems. In case of contact, rinse thoroughly with plenty of water. Inspect aluminum aircraft components regularly for signs of corrosion.

3.0 DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply directly to finished drinking water reservoirs or drinking water receptacles when water is intended for human consumption.

Do not apply when weather conditions favor drift from treated areas. Do not apply to metallic painted objects, such as automobiles, as spotting may occur. If spray is deposited on metallic painted surfaces, wash immediately with soap and water to avoid spotting.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the treatment coordinator are responsible for considering all these factors when making decisions.

3.1 Chemigation

Do not apply this product through any type of irrigation system unless labeling on chemigation is followed.

4.0 STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. **STORAGE:** Store in a cool, [less than 86° F (30° C)], dry place.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Do not reuse container.

CONTINUED

5.0 APPLICATION DIRECTIONS

Do not apply when wind speed favors drift beyond the area of treatment.

Mosquito Habitat	Suggested Rate Range*
-------------------------	------------------------------

(Such as the following examples):
Irrigation ditches, roadside ditches, flood water, standing ponds, woodland pools, snow melt pools, pastures, catch basins, storm water retention areas, tidal water, salt marshes and rice fields.

In addition, standing water containing mosquito larvae, in fields growing crops such as: Alfalfa, almonds, asparagus, corn, cotton, dates, grapes, peaches and walnuts, may be treated at the recommended rates.

When applying this product to standing water containing mosquito larvae in fields growing crops, do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Polluted water (such as sewage lagoons, animal waste lagoons).	1 - 2 pts/acre
--	----------------

*Use higher rate range in polluted water and when late 3rd and early 4th instar larvae predominate, mosquito populations are high, water is heavily polluted, and/or algae are abundant.

Blackflies Habitat	Suggested Rate Range
---------------------------	-----------------------------

Streams	
Stream water† (= ppm) for 1 minute exposure time	0.5 - 25 mg/liter
Stream water† (= ppm) for 10 minutes exposure time	0.05 - 2.5 mg/liter

†Use higher rate range when stream contains high concentration of organic materials, algae, or dense aquatic vegetation.

†Discharge is a principal factor determining carry of Bti. Use higher rate or increase volume by water dilution in low discharge rivers or streams under low volume (drought) conditions.

6.0 NUISANCE FLIES

For control of nuisance flies (*Psychoda* spp., *Chironomus* spp.) in sewage treatment facilities utilizing trickling filter systems.

APPLICATION DIRECTIONS

Nuisance Fly Habitat	Suggested Rate Range*
-----------------------------	------------------------------

Trickling filter system of wastewater treatment plants	10 - 20 mg/liter a.(0.833-1.67 ml) per liter of wastewater feed to the filter per 30 minutes
--	--

* Use high rate for control of *Chironomus* spp. Apply undiluted with pre-calibrated pump or other device into the wastewater feeding into the filters for a period of 30 minutes. Repeat applications as needed after 2-4 weeks. Control of *Chironomus* spp. may take up to 2 weeks.

7.0 NUISANCE AQUATIC MIDGES

For control of *Chironomine* midges (*Chironominae: Chironomini*) inhabiting shallow, manmade and natural lakes or ponds.

APPLICATION DIRECTIONS

Nuisance Midge Habitat	Suggested Rate Range*
-------------------------------	------------------------------

Shallow Lakes and Ponds per sewage oxidation ponds (less than acre 6 feet deep)	1 gallon (3,785.5 ml) per acre
---	--------------------------------------

* Apply diluted with water in total volume of 5 gallons/acre by pouring or spraying over the surface to be treated with pre-calibrated device. Repeat application as needed after 2-4 weeks. Control of *Chironomine* midges may take up to 2 weeks.

8.0 GROUND AND AERIAL APPLICATION

VectoBac 12AS may be applied in conventional ground or aerial application equipment with quantities of water sufficient to provide uniform coverage of the target area. The amount of water will depend on weather, spray equipment, and mosquito habitat characteristics. Do not mix more VectoBac 12AS than can be used in a 72-hour period.

For most ground spraying, apply in 5-100 gallons of water per acre using hand-pump, airblast, mist blower, etc., spray equipment.

For aerial application, VectoBac 12AS may be applied either undiluted or diluted with water. For undiluted applications, apply 0.25 to 2.0 pt/acre of VectoBac 12AS through fixed wing or helicopter aircraft equipped with either conventional boom and nozzle systems or rotary atomizers.

For diluted application, fill the mix tank or plane hopper with the desired quantity of water. Start the mechanical or hydraulic agitation to provide moderate circulation before adding the VectoBac 12AS. VectoBac 12AS suspends readily in water and will stay suspended over normal application periods. Brief recirculation may be necessary if the spray mixture has sat for several hours or longer. AVOID CONTINUOUS AGITATION OF THE SPRAY MIXTURE DURING SPRAYING.

Rinse and flush spray equipment thoroughly following each use.

For blackfly aerial applications, VectoBac 12AS can be applied undiluted via fixed wing or helicopter aircraft equipped with either conventional boom and nozzle systems or open pipes. Rate of application will be determined by the stream discharge and the required amount of VectoBac 12AS necessary to maintain a 0.5 - 25 ppm concentration in the stream water. VectoBac 12AS can also be applied diluted with similar spray equipment. Do not mix more VectoBac 12AS than can be used in a 72-hour period.

9.0 SMALL QUANTITY DILUTION RATES

Gallons Spray Solution/Acre (Ounces Needed per Gallon of Spray)

VectoBac 12AS			
Rate in Pints			
Per Acre	10 Gal/A	25 Gal/A	50 Gal/A
0.25 (4 oz)	0.4	0.16	0.08
0.5 (8 oz)	0.8	0.32	0.16
1.0 (16 oz)	1.6	0.64	0.32
2.0 (32 oz)	3.2	1.28	0.64

10.0 CHEMIGATION

Apply this product through flood (basin) irrigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have any questions about calibration, you should contact State Extension Service Specialists, equipment manufacturers or other experts.

A person knowledgeable of this chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

10.1 RICE-FLOOD (BASIN) CHEMIGATION

Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.

VectoBac 12AS is metered or dripped into rice floodwater at application stations positioned at the point of introduction (levee cut) of water into each rice field or pan. Two to three pints of VectoBac 12AS are diluted in water to a final volume of 5 gallons. The diluted solution is contained in a 5 gallon container and metered or dispersed into the irrigation water using a constant flow device at the rate of 80 ml per minute. Introduction of the solution should begin when 1/3 to 1/2 of the pan or field is covered with floodwater. Delivery of the solution should continue for a period of approximately 4-1/2 hours. Floodwater depth should not exceed 10-12 inches to prevent excessive dilution of VectoBac 12AS which could result in reduced larval kill.

Agitation is not required during the period in which the VectoBac 12AS solution is being dispersed.

Application of VectoBac 12AS into rice floodwater is not permitted using a pressurized water and pesticide injection system.

11.0 NOTICE TO USER

Seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with accompanying directions.

VectoBac is a registered trademark of Valent BioSciences Corporation.

VectoBac® 12AS Biological Larvicide Aqueous Suspension

SDS# VBC-0036 Revision 3

ISSUED 03/08/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY**1.1 Product Identifier****MATERIAL NAME:** VectoBac® 12 AS Biological Larvicide Aqueous Suspension**Synonyms:** VectoBac 12AS**EPA Reg No.:** 73049-38**Code Number:** 15576, 15577, 15578, 21894, 83872**List Number:** 05605**Chemical Family:** Not applicable; microbial product**1.2 Relevant Identified Uses and Uses Advised Against****Identified Uses:** Mosquito larvicide**Uses Advised Against:** It is a violation of Federal law to use this product in a manner inconsistent with its FIFRA pesticide labeling.**1.3 Details of the supplier of the Safety Data Sheet****Supplied By:** Valent BioSciences Corporation
870 Technology Way
Libertyville, Illinois 60048**1.4 EMERGENCY TELEPHONE NUMBERS****Emergency Health or Spill:**

Outside the United States: 651-632-6184

Within the United States: 877-315-9819

2. HAZARDS IDENTIFICATION**2.1 Classification of the Substance or Mixture**

Category 1B: Sensitization -Skin

2.2 Labeling Elements**Symbol(s)****Signal Word**

WARNING

VectoBac® 12AS Biological Larvicide Aqueous Suspension

SDS# VBC-0036 Revision 3

ISSUED 03/08/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

Hazard Statement(s)

May cause an allergic skin reaction

Precautionary Statement:

Prevention

- Avoid breathing mist or spray
- Wash thoroughly after handling
- Contaminated work clothing must not be allowed out of the workplace
- Wear protective impervious gloves

Response

- If on skin: Wash with plenty of water.
- If skin irritation or rash occurs: Get medical advice/ attention.
- Take off contaminated clothing and wash it before reuse.

Disposal

Dispose of contents/container in accordance with local/regional/national regulations.

2.3 Other Hazards

None identified.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Component Name	Classification	Percent
None	<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i>	Eye Irritation – Cat 2B Skin Sensitizer – Cat 1B	11.61 %
2634-33-5	Proxel GXL	Skin Sensitizer	0.10 %
Trade Secret	Other Ingredients – withheld as Trade Secret	Not classified	88.29 %

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

GENERAL: In all cases of doubt, seek medical attention.

EYES: Remove from source of exposure. Flush with copious amounts of water. Remove contact lenses, if present and easy to do, after the first 5 minutes, then continue rinsing. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic /supportive care as necessary.

SKIN: Remove from source of exposure. Take off contaminated clothing. Flush with copious amounts of water. Cover irritated skin with an emollient. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

VectoBac® 12AS Biological Larvicide Aqueous Suspension

SDS# VBC-0036 Revision 3

ISSUED 03/08/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

INGESTION: Remove from source of exposure. Move person to fresh air. Do NOT induce vomiting. Give large quantities of water. If signs of toxicity occur, seek medical attention. Provide symptomatic /supportive care as necessary.

INHALATION: Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary. If person is not breathing, call 911, then give artificial respiration.

4.2 Most important Symptoms and Effects, both Acute and Delayed**Acute**

Mild eye and skin irritation, mild sensitization potential

Delayed

No information on significant adverse effects

4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically and supportively

5. FIRE FIGHTING PROCEDURES**5.1 Extinguisher Media****Suitable Extinguisher Media**

Dry chemical, water spray, foam or carbon dioxide. Use appropriate medium for the underlying cause of the fire.

Unsuitable Extinguisher Media

None known

5.2 Specific Hazards Arising from the Chemical

Keep containers cool by spraying with water if exposed to fire.

Thermal decomposition products

Carbon oxides, nitrogen oxides

5.3 Advice to Firefighters**Protective Equipment and precautions for firefighters**

Fire fighter should wear full-face, self-contained breathing apparatus and impervious protective clothing. Fire fighters should avoid inhaling combustion products. See Section 8 (Exposure Controls / Personal Protection)

Fire & Explosive hazard

Not expected to be flammable.

VectoBac® 12AS Biological Larvicide Aqueous Suspension

SDS# VBC-0036 Revision 3

ISSUED 03/08/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

6. ACCIDENTAL RELEASE MEASURES**6.1 Personal Precautions, Protective Equipment and Emergency Procedures**

Wear a dust/mist filtering respirator, eye protection and impervious gloves.

6.2 Environmental Precautions

Dispose of excess product and washwaters according to local regulations.

6.3 Methods and Materials for Containment and Cleaning Up

Recover product with inert material (earth, sand, vermiculite), place into appropriate container for disposal. Do not flush to sewer.

6.4 Reference to Other Sections

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations. See Section 13 for Disposal Considerations.

US Regulations may require reporting spills of hazardous materials: See Section 15: Regulatory Information for details on reportable quantities, if any.

7. HANDLING AND STORAGE**7.1 Precautions for Safe handling**

Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Do not eat, drink or smoke while working with product, obey reasonable safety precautions and practice good housekeeping.

7.2 Conditions for Safe Storage, Including and Incompatibilities

Store in a cool, dry place. For further information refer to local country registration and label.

Incompatibilities

None Known

7.3 Specific End Use(s)

Mosquito Larvicide.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control Parameters****Component Exposure Limits**

None Established

VectoBac® 12AS Biological Larvicide Aqueous Suspension

SDS# VBC-0036 Revision 3

ISSUED 03/08/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

Derived No Effect Levels (DNELs)

No DNELs available

Predicted No Effect Concentrations (PNECs)

No PNECs available

8.2 Exposure Controls

Appropriate Engineering Controls

Provide general ventilation.

SKIN PROTECTION:

Wear impervious protective clothing, including boots and gloves. Wear gloves made of impervious materials. Wash thoroughly with soap and water after handling.

EYE PROTECTION:

Wear goggles, safety glasses with side shields or full-face shield when splashing or spraying of materials is likely.

RESPIRATORY PROTECTION:

Use dust/mist filtering respirator (MSHA/NIOSH approved number prefix TC-21C) or a NIOSH approved respirator with any N, P, R or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light brown liquid	Odor:	Malt-like
pH:	5.0 (1% w/v susp)	Odor Threshold:	N/D
Melting Point:	°F (°C)	Boiling Point:	°F (°C)
Specific Gravity:	@ °F	Solubility (H ₂ O):	
Relative Density:	1.06 g/cm ³ @ 20 °C	Evaporation Rate:	N/D
Octanol/H ₂ O Coeff:	N/D	Decomposition Temp.:	N/D
Vapor Density:	N/D	Vapor Pressure:	N/D
VOC:	% by weight	Flammability Class:	Not flammable
Kinematic Viscosity:	cSt @ °C cSt @ °C		

10. CHEMICAL STABILITY AND REACTIVITY

10.1 Reactivity

Material does not pose a significant reactivity hazard.

10.2 Chemical Stability

Stable under ordinary conditions of use and storage. Spontaneous reaction not possible.

VectoBac® 12AS Biological Larvicide Aqueous Suspension

SDS# VBC-0036 Revision 3

ISSUED 03/08/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

10.3 Possibility of Hazardous Reactions

Does not undergo hazardous polymerization

10.4 Conditions to Avoid

Keep away from incompatible substances.

10.5 Incompatible Materials

Diluted or undiluted product can cause corrosion if left in prolonged contact with aluminum surfaces (e.g. spray equipment, aircraft components).

10.6 Hazardous Decomposition Products

Carbon oxides and unidentified organic compounds.

11. TOXICOLOGICAL INFORMATION**11.1 Information on Toxicological Effects**Likely Routes of Exposure

Eye Contact: Yes

Skin Contact: Yes

Inhalation: No

Ingestion: No

Acute Effects – Product Toxicology StudiesOral Toxicity: LD₅₀ > 5,000 mg/kg (rat)Dermal Toxicity: LD₅₀ > 5,000 mg/kg (rabbit)Inhalation Toxicity: LC₅₀ > 5.34 mg/L air

Corrosiveness: Not corrosive to humans, can be corrosive to aluminum.

Dermal Irritation: slightly-irritating, (category IV)

Ocular Irritation: slightly-irritating, (category IV)

Dermal Sensitization: Mild sensitizer, (guinea pig)

Mutagenicity Information: Components of this product are not listed as mutagens.

Carcinogenicity Information: Components of this product are not listed as carcinogenic by NTP, IARC or OSHA.

Developmental/Reproductive Toxicity: This material is not a teratogenic compound. The NOEL for maternal and embryo toxicity in rabbits was ___ mg/kg/day. The NOEL for reproductive effects in rats was ___ ppm.

Special Target Organ: Slight eye and skin Irritation.

Aspiration Hazard: Not Applicable

Repeat Dose Studies: Not Applicable, Pathogenicity Toxicity testing was all negative

VectoBac® 12AS Biological Larvicide Aqueous Suspension

SDS# VBC-0036 Revision 3

ISSUED 03/08/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

12. ECOLOGICAL INFORMATION**12.1 Ecotoxicity (Data for a Concentrated Technical Powder)**Fish: LC₅₀ >370 mg/L (96-H, Rainbow Trout)Bird: LC₅₀ >3077 mg /kg (6.2 x 10¹¹ cfu/kg) (Acute Oral - Bobwhite Quail)LC₅₀ >3077 mg /kg (6.2 x 10¹¹ cfu/kg) each day for 5 days (Sub-Acute Oral
(dietary) - Bobwhite Quail)Invertebrates: LC₅₀ >50 mg/L (48-H) (Daphnia)

Bees: Essentially non-toxic to honey bees.

12.2 Persistence and Degradability

No data available

12.3 Bioaccumulation potential

Not applicable. Substance is not pathogenic to non-target organisms

12.4 Mobility in Soil

No data available

12.5 Results of PBT and vPvB assessment

Assessments not performed

12.6 Other adverse effects

None known

13. DISPOSAL CONSIDERATIONS**13.1 Waste Disposal Methods**

Dispose of product in accordance with federal, state, provincial, and local regulations. Prevent contamination of environment by wastes.

US EPA WASTE NUMBER & DESCRIPTIONS:

There is no applicable EPA waste number. This product, if discarded, is not expected to be a characteristic or listed hazardous waste.

14. TRANSPORTATION INFORMATIONDOT STATUS: Not regulated by US DOT
UN PROPER SHIPPING NAME: N/A
REMARKS: N/A

VectoBac® 12AS Biological Larvicide Aqueous Suspension

SDS# VBC-0036 Revision 3

ISSUED 03/08/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

IATA/ICA0 STATUS: Not Regulated
PROPER SHIPPING NAME: N/A
REMARKS: N/A

IMDG STATUS: Not Regulated
PROPER SHIPPING NAME: N/A
REMARKS: N/A

15. REGULATORY INFORMATION**15.1 Safety, Health and Environmental Regulations / Specific Legislation**

TSCA STATUS: Not Listed

CERCLA STATUS: Not regulated as hazardous

SARA STATUS: Acute: No Chronic: No Fire: No CDT: No

RCRA STATUS: Not regulated as hazardous

State Right-To-Know: Not listed.

Consult applicable national, state provincial or local laws to determine regulations, laws or ordinances which may be applicable.

OSHA HAZARD COMMUNICATION STANDARD: Not defined by the OSHA Hazard Communication Standard, 29 CFR.

15.2 FIFRA – Pesticide Labeling

EPA registration Number 73049-38

EPA Pesticide Label signal word: CAUTION

Product must have EPA Approved Pesticide Label attached or accompanying all containers.

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions and limitations for its use.

**KEEP OUT OF REACH OF CHILDREN
PRECAUTIONARY STATEMENT
HAZARD TO HUMANS AND DOMESTIC ANIMALS
CAUTION**

Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash contaminated clothing before reuse.

VectoBac® 12AS Biological Larvicide Aqueous Suspension

SDS# VBC-0036 Revision 3

ISSUED 03/08/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

Mixers/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95 or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

PHYSICAL AND CHEMICAL HAZARDS

Diluted or undiluted VectoBac® 12 AS can cause corrosion if left in prolonged contact with aluminum spray system components. Rinse spray system with plenty of clean water after use. Care should be taken to prevent contact with aluminum aircraft surfaces, structural components and control systems, In case of contact, rinse thoroughly with plenty of water. Inspect aluminum aircraft components regularly for signs of corrosion.

DIRECTIONS FOR USE

It is in violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply directly to treated finished drinking water reservoirs or drinking water receptacles when water is intended for human consumption.

Do not apply when weather conditions favor drift from treated areas. Do not apply to metallic painted objects, such as automobiles, as spotting may occur. If spray is deposited on metallic painted surfaces, wash immediately with soap and water to avoid spotting.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather related factors determine the potential for spray drift. The applicator and the treatment coordinator are responsible for considering all these factors when making decisions.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Storage: Store in a cool, [less than 86°F (30° C)] dry place.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Nonrefillable container. Do not reuse or refill this container.

Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling or puncture and dispose of in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke. Do not reuse container.

VectoBac® 12AS Biological Larvicide Aqueous Suspension

SDS# VBC-0036 Revision 3

ISSUED 03/08/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

16. OTHER INFORMATION**NFPA Hazard Ratings**Health: N/D
Flammability: N/D
Instability: N/D**HMIS Hazard Ratings**Health: N/D
Flammability: N/D
Instability: N/D0 = minimal
1 = slight
2 = moderate
3 = serious
4 = ExtremeREASON FOR ISSUE: Updated List #'s
APPROVAL DATE: 03/08/16
SUPERSEDES DATE: 04/14/15LEGEND: N/A = Not Applicable
N/L = Not Listed
C = CeilingN/D = Not Determined
L = Listed
S = Short-term(R) = Registered Trademark of Valent BioSciences
(TM) = Registered Trademark of Valent BioSciences

The information provided in this Safety Data Sheet (SDS) is provided in good faith and believed to be accurate at the time of preparation of the SDS. However, to the extent consistent with applicable law, Valent BioSciences Corporation and its subsidiaries or affiliates extend no warranties, make no representations, and assume no responsibility as to the accuracy, suitability, or completeness of such information. Additionally, to the extent consistent with applicable law, neither Valent BioSciences Corporation nor any of its subsidiaries or affiliates represents or guarantees that this information or product may be used without infringing the intellectual property rights of others. Except to the extent a particular use and particular information are expressly stated on the product label, it is the users' own responsibility to determine the suitability of this information for their own particular use of this product. If necessary, contact Valent BioSciences Corporation to confirm that you have the most current product label and SDS.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABEL (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use as required by the Occupational Health and Safety Act (29 CFR 1910.1200, "Hazcom"). The product label provides information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products is regulated by the EPA under the authority of FIFRA through the product label. All necessary hazard classification and appropriate precautionary use, storage, and disposal information is set forth on that label or labeling accompanying the pesticide or to which reference is made on the label. It is a violation of federal law to use an EPA-registered pesticide product in any manner inconsistent with its labeling.

VectoBac[®] GS

BIOLOGICAL LARVICIDE

GRANULE

ACTIVE INGREDIENT:

<i>Bacillus thuringiensis</i> , subspecies <i>israelensis</i> , strain AM 65-52, fermentation solids, spores, and insecticidal toxins	2.80%
OTHER INGREDIENTS	97.20%
TOTAL	100.00%

Potency: 200 International Toxic Units (ITU) per mg (Equivalent to 0.091 billion potency: ITU per pound)

The percent active ingredient does not indicate product performance and potency measurements are not Federally standardized.

EPA Reg. No. 73049-10

EPA Est. No. 33762-IA-001

List No. 05103

INDEX:

- 1.0 First Aid
- 2.0 Precautionary Statements
 - 2.1 Hazard to Humans (and Domestic Animals)
 - 2.2 Environmental Hazards
- 3.0 Directions for Use
- 4.0 Application Directions
- 5.0 Storage and Disposal
- 6.0 Notice to User

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

1.0

FIRST AID

If in Eyes

- Hold eyes open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes.
- Call a poison control center or doctor for treatment advice.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-315-9819 (24 hours) for emergency medical treatment and/or transport emergency information. For all other information, call 1-800-323-9597.

2.0 PRECAUTIONARY STATEMENTS

2.1 HAZARD TO HUMANS (AND DOMESTIC ANIMALS)

CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

Mixers/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist respirator meeting NIOSH standards of at least N-95, R-95 or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

2.2 ENVIRONMENTAL HAZARDS

Do not contaminate water when cleaning equipment or disposing of equipment washwaters. Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

3.0 DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

4.0 APPLICATION DIRECTIONS

VectoBac GS is an insecticide for use against mosquito larvae.

Mosquitoes Habitat

Suggested Range Rate*

(Such as the following examples):

Irrigation ditches, roadside ditches, flood water, standing ponds, livestock watering ponds and troughs, woodland pools, snow melt pools, pastures, catch basins, storm water retention areas, tidal water, salt marshes and rice fields	2.5 - 10 lbs. / acre
--	----------------------

In addition, standing water containing mosquito larvae, in fields growing crops such as alfalfa, almonds, asparagus, corn, cotton, dates, grapes, peaches, sugar cane and walnuts may be treated at the recommended rates.

* Use 10-20 lbs. / acre when late 3rd and early 4th instar larvae predominate, mosquito populations are high, water is heavily polluted (sewage lagoons, animal waste lagoons), and/or algae are abundant.

Apply uniformly by aerial or ground conventional equipment. Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the treatment coordinator are responsible for considering all of these factors when making decisions.

A 7 to 14 day interval between applications should be employed.

5.0 STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Storage: Store in a cool [59-86°F (15-30°C)], dry place.

Pesticide Disposal: Completely empty bag into application equipment. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Handling: Nonrefillable container. Do not reuse or refill this container. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact Ag Container Recycling Council at 202-861-3144 or www.acrecycle.org. If recycling is not available dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

6.0 NOTICE TO USER

To the extent consistent with applicable law, seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with accompanying directions.

VectoBac is a registered trademark of
Valent BioSciences Corporation.

VectoBac® GS**MSDS# BIO-0636 Rev. 1**

ISSUED 01/02/12

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION
-----MATERIAL NAME: **VectoBac® GS**

EPA Registration No. 73049-10

MANUFACTURER: Valent BioSciences Corporation
870 Technology Way, Suite 100
Libertyville, Illinois 60048

EMERGENCY TELEPHONE NUMBERS

Emergency Health or Spill:

Outside the United States: 651-632-6184

Within the United States: 877-315-9819

2. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME: Bacillus thuringiensis, subsp. israelensis

CONCENTRATION: 2.80 %

CAS/RTECS NUMBERS: 68038-71-1 / N/A

OSHA-PEL 8HR TWA: N/L

STEL: N/L

CEILING: N/L

ACGIH-TLV 8HR TWA: N/L

STEL: N/L

CEILING: N/L

OTHER 8HR TWA: N/A

LIMITS STEL: N/A

CEILING: N/A

INGREDIENT NAME: Inert Ingredients - identity withheld as a Trade
Secret

CONCENTRATION: 97.20 %

CAS/RTECS NUMBERS: N/A / N/A

OSHA-PEL 8HR TWA: N/L

STEL: N/L

CEILING: N/L

ACGIH-TLV 8HR TWA: N/L

STEL: N/L

CEILING: N/L

OTHER 8HR TWA: N/A

LIMITS STEL: N/A

CEILING: N/A

VectoBac® GS

MSDS# BIO-0636 Rev. 1

ISSUED 01/02/12

2. COMPOSITION/INFORMATION ON INGREDIENTS, continued

EEC (European Community): N/A
Symbol Designation: N/A
Risk Phrases: N/A
Safety Phrases: N/A

3. HAZARDS INFORMATION

EMERGENCY OVERVIEW: Product is non-toxic by ingestion, skin contact, or inhalation. Direct contact with eyes or skin may cause mild irritation.

ROUTE(S) OF ENTRY: Skin: No
 Inhalation: No
 Ingestion: No

SKIN CONTACT: Non-irritant

SKIN SENSITIZATION: N/D

EYE CONTACT: Non-irritant

TARGET ORGANS: N/D

CARCINOGENICITY RATING: NTP: N/L IARC: N/L OSHA: N/L ACGIH: N/L
None

SIGNS AND SYMPTOMS: Direct contact with eyes or skin may cause mild irritation.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/D.

VectoBac® GS

MSDS# BIO-0636 Rev. 1

ISSUED 01/02/12

4. FIRST AID MEASURES

EYES: Remove from source of exposure. Flush with copious amounts of water. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

SKIN: Remove from source of exposure. Flush with copious amounts of water. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

INGESTION: Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

INHALATION: Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

5. FIRE FIGHTING PROCEDURES

FLASH POINT: N/A

FLASH POINT METHOD: N/D

LOWER EXPLOSIVE LIMIT(%): N/D

UPPER EXPLOSIVE LIMIT(%): N/D

AUTOIGNITION TEMPERATURE: N/D

FIRE & EXPLOSION HAZARDS: Non-flammable and no explosive properties.

EXTINGUISHING MEDIA: Use appropriate medium for underlying cause of fire.

FIRE FIGHTING INSTRUCTIONS: Wear protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

SPILL OR RELEASE PROCEDURES: Recover product. Place into appropriate container for disposal. Avoid dust. Ventilate and wash spill area.

VectoBac® GS

MSDS# BIO-0636 Rev. 1

ISSUED 01/02/12

7. HANDLING AND STORAGE

HANDLING: N/D.

STORAGE: Store in a cool, dry place.

SPECIAL PRECAUTIONS: N/A

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Use local exhaust.

RESPIRATORY PROTECTION: Not usually required. However, mixers/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist respirator meeting NIOSH standards of at least N-95, R-95 or P-95.

SKIN PROTECTION: Impervious gloves, clothing to minimize skin contact.

EYE PROTECTION: Not usually required. If necessary, use safety glasses or goggles.

OTHER PROTECTION: Wash thoroughly with soap and water after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE: Granular solid.

ODOR: Mild

BOILING POINT: N/A

MELTING/FREEZING POINT: N/A

VAPOR PRESSURE (mm Hg): N/A

VAPOR DENSITY (Air=1): N/A

EVAPORATION RATE: N/D

BULK DENSITY: 27 ± 4 lb/cu.ft.

SPECIFIC GRAVITY: N/D

SOLUBILITY: N/A

pH: 5.4 ± 1.0 (10% slurry)

VISCOSITY: N/A

VectoBac® GS

MSDS# BIO-0636 Rev. 1

ISSUED 01/02/12

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable

INCOMPATIBILITIES: Alkalinity inactivates product.

HAZARDOUS DECOMPOSITION PRODUCTS: N/D.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

ORAL LD50: LD50 (rat) > 5,000 mg/kg

DERMAL LD50: LD50 (rabbit) > 5,000 mg/kg

INHALATION LC50: N/D. No lethality was observed in rats after a 4 hour exposure at the highest obtainable inhalation exposure chamber concentration (2.84 mg/l) to VectoBac® Technical Powder.

CORROSIVENESS: N/D. Not expected to have any corrosive properties.

DERMAL IRRITATION: N/D. Transient, slight or mild irritation noted in a dermal toxicity study with VectoBac® Technical Powder.

OCULAR IRRITATION: N/D. VectoBac® Technical Powder was mildly irritating in an eye irritation test in rabbits.

DERMAL SENSITIZATION: N/D

SPECIAL TARGET ORGAN EFFECTS: N/D

CARCINOGENICITY INFORMATION: N/D. None of the components are classified as carcinogens.

VectoBac® GS

MSDS# BIO-0636 Rev. 1

ISSUED 01/02/12

12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: N/D

13. DISPOSAL CONSIDERATIONS

Do not contaminate potable water, food or feed by storage or disposal.
Dispose of product in accordance with federal, state, and local
regulations.

WASTE DISPOSAL METHODS:

Pesticide Disposal: Wastes resulting from use of this product may be
disposed of on site or at an approved waste disposal facility.

Container Disposal: Completely empty bag into application equipment.
Then dispose of empty bag in a sanitary landfill or by incineration,
or, if allowed by State and local authorities, by burning. If burned,
stay out of smoke.

14. TRANSPORTATION INFORMATION

DOT STATUS: Not Regulated

PROPER SHIPPING NAME: N/A

HAZARD CLASS: N/A

UN NUMBER: N/A

PACKING GROUP: N/A

REPORTABLE QUANTITY: N/A

IATA/ICAO STATUS: Not Regulated

PROPER SHIPPING NAME: N/A

HAZARD CLASS: N/A

UN NUMBER: N/A

PACKING GROUP: N/A

REPORTABLE QUANTITY: N/A

IMO STATUS: Not Regulated

PROPER SHIPPING NAME: N/A

HAZARD CLASS: N/A

UN NUMBER: N/A

PACKING GROUP: N/A

REPORTABLE QUANTITY: N/A

FLASH POINT: N/A

VectoBac® GS

MSDS# BIO-0636 Rev. 1

ISSUED 01/02/12

15. REGULATORY INFORMATION

TSCA STATUS: Exempt

CERCLA STATUS: N/D

SARA STATUS: N/D

RCRA STATUS: N/D

PROP 65 (CA): N/D

16. OTHER INFORMATION

REASON FOR ISSUE: MSDS Reviewed.

APPROVAL DATE: 01/02/12

SUPERSEDES DATE: 06/24/11

LEGEND: N/A = Not Applicable

N/D = Not Determined

N/L = Not Listed

L = Listed

C = Ceiling

S = Short-term

(R) = Registered Trademark of Valent BioSciences

(TM) = Registered Trademark of Valent BioSciences

The information and recommendations contained herein are based upon tests believed to be reliable. However, Valent BioSciences does not guarantee their accuracy or completeness nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of the goods, the merchantability of the goods, or the fitness of the goods for a particular purpose. Adjustment to conform with actual conditions of usage may be required. Valent BioSciences assumes no responsibility for results obtained or for incidental or consequential damages arising from the use of these data. No freedom from infringement of any patent, copyright or trademark is to be inferred.



870 Technology Way, Suite 100
Libertyville, IL 60048 - 800-323-9597

January 2012 © Valent BioSciences Corporation

VectoBac[®] WDG

BIOLOGICAL LARVICIDE

WATER DISPERSIBLE GRANULE



FOR ORGANIC PRODUCTION

ACTIVE INGREDIENT:

Bacillus thuringiensis, subsp. *israelensis*, strain AM 65-52
fermentation solids, spores, and insecticidal toxins* 37.4%

OTHER INGREDIENTS 62.6%

TOTAL..... 100.0%

*Potency: 3000 International Toxic Units (ITU) per mg of product
Equivalent to 1.36 billion ITU/lb of product.

The percent active ingredient does not indicate product performance and potency measurements are not Federally standardized.

EPA Reg. No. 73049-56

EPA Est. No. 33762-IA-001

List No. 60215

INDEX:

- 1.0 First Aid
- 2.0 Precautionary Statements
 - 2.1 Hazards to Humans and Domestic Animals
 - 2.2 Environmental Hazards
- 3.0 Directions for Use
- 4.0 Application Directions
- 5.0 Small Quantity Dilution Rates
- 6.0 Ground and Aerial Application
 - 6.1 Aerial Application
- 7.0 Storage and Disposal
- 8.0 Notice to User

KEEP OUT OF REACH OF CHILDREN CAUTION

1.0 FIRST AID	
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth, if possible. • Call a poison control center or doctor for further treatment advice.
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-892-0099 (24 hours) for emergency medical treatment and/or transportation emergency information. For all other information, call 1-800-89-VALENT (1-800-898-2536).	

2.0 PRECAUTIONARY STATEMENTS

2.1 HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if inhaled. Causes moderate eye irritation. Avoid breathing dust or spray mist. Avoid contact with eyes or clothing. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Mixers/loaders and applicators not in enclosed cabs or aircraft must wear a NIOSH-approved particulate respirator with any N, P or R filter with NIOSH approval number prefix TC-84A or a NIOSH-approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

2.2 Environmental Hazards

Do not contaminate water when disposing of equipment washwater or rinsate.

3.0 DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply directly to treated, finished drinking water reservoirs.

For use only by federal, state, tribal or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform mosquito control applications, or by persons under their direct supervision.

IN CALIFORNIA: This product is to be applied by County Health Department, State Department of Health Services, Mosquito and Vector Control or Mosquito Abatement District personnel, or persons under contract to these entities only.

Do not apply this product through any type of irrigation system.

4.0 APPLICATION DIRECTIONS

Do not apply when wind speed favors drift beyond the area of treatment.

VectoBac[®] WDG Biological Larvicide Water Dispersable Granule (hereafter referred to as VectoBac WDG) is an insecticide for use against mosquito larvae.

Mosquito Larvae Control in Urban and Rural Areas Mosquito Habitat Application Rate Range*

Irrigation ditches, roadside	1.75 - 7.0 oz/acre
ditches, flood water, standing	(50 - 200 g/acre)
pools, woodland pools, snow	(125 - 500 g/ha)
melt pools, pastures, catch basins, storm water retention areas, tidal water, salt marshes and rice fields.	

Direct spray applications to sites where mosquitoes breed. These sites include tires and tire piles, potted plants, tree holes, garbage bins, cans, birdbaths, rain barrels, and other water-holding containers and small bodies of water such as personal rainwater catchment cisterns.

4.0 APPLICATION DIRECTIONS (CONT'D)

Mosquito Habitat	Applications Rate Range*
------------------	--------------------------

Polluted water, such as sewage and animal waste lagoons	7.0 - 14.0 oz/acre (200 - 400 g/acre) (500 - 1000 g/ha)
---	---

Standing water, which contains mosquito larvae, in fields with growing crops (e.g., alfalfa, almonds, asparagus, corn, cotton, dates, grapes, peaches and walnuts) can be treated at the specified application rates.

* Use higher application rate range in polluted water and when late 3rd and early 4th instar larvae predominate, mosquito populations are high, and/or algae are abundant.

5.0 SMALL QUANTITY DILUTION RATES

For when small areas are to be treated, the table below can be used to determine application rates.

Gallons Spray Mixture/Acre
(Ounces Needed per Gallon of Spray)

Rates in		Final concentration, ounces/gallon spray		
Ounces/Acre	Grams/A	10 Gal/A	25 Gal/A	50 Gal/A
1.75	50	0.175	0.07	0.04
3.5	100	0.35	0.14	0.07
7.0	200	0.7	0.28	0.14
14.0	400	1.4	0.565	0.28

6.0 GROUND AND AERIAL APPLICATION (In Urban and Rural Areas)

VectoBac WDG may be applied using conventional ground or aerial application equipment with quantities of water sufficient to provide uniform coverage of the target area. For application, first add VectoBac WDG to water to produce a final spray mixture.

The amount of water will depend on weather, spray equipment, and mosquito habitat characteristics. For application, fill the mix tank or plane hopper with the desired quantity of water. Start the mechanical or manual agitation to provide moderate circulation of water before adding VectoBac WDG. Backpack and compressed air sprayers may be agitated by shaking after adding VectoBac WDG to the water in the sprayer. VectoBac WDG suspends readily in water and will stay suspended over normal application periods. Brief recirculation may be necessary if the spray mixture has sat for several hours or longer. Do not mix more VectoBac WDG than can be used in a 48-hour period. AVOID CONTINUOUS AGITATION OF THE SPRAY MIXTURE DURING SPRAYING.

For ground spraying, apply VectoBac WDG at a rate of 1.75 - 14 oz/acre (50 - 400 g/acre; 125-1000 g/ha) in 5 - 100 gallons of water per acre (47 - 950 liters/ha) using hand-pump, airblast, mist blower, or other spray equipment.

For aerial application, apply VectoBac WDG at a rate of 1.75 - 14 oz/acre (50 - 400 g/acre; 125-1000 g/ha) in 0.25 - 10 gallons of water per acre (2.4 - 93.5 liters/ha) through fixed wing or helicopter aircraft equipped with either conventional boom and nozzle systems or rotary atomizers to provide uniform coverage of the target area.

Rinse and flush spray equipment thoroughly following each use.

6.1 Aerial Application

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the treatment coordinator are responsible for considering all of these factors when making decisions.

7.0 STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage: Store in cool [59 - 86°F (15 - 30°C)], dry place.

Pesticide Disposal: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

8.0 NOTICE TO USER

To the extent consistent with applicable law, seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning use of this product other than as indicated on this label. To the extent consistent with applicable law, user assumes all risks of use, storage or handling not in accordance with accompanying directions.

VectoBac is a registered trademark of
Valent BioSciences LLC.

VectoBac[®] WDG Biological Larvicide

SDS# VBC-0019 Revision 3

ISSUED 04/28/17

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY**1.1 Product Identifier****MATERIAL NAME:** VectoBac[®] WDG**Synonyms:** VectoBac[®] WG, VectoBac 37 WG, Gnatrol WDG, Gnatrol DG**EPA Reg No.:** 73049-56**Code Number:** 80893, 33921**List Number:** 60215**Chemical Family:** Not applicable; microbial product**Substance Registration Number(s)[REACH]:** N/A**1.2 Relevant Identified Uses and Uses Advised Against****Identified Uses:** Biological mosquito larvicide**Uses Advised Against:** It is a violation of Federal law to use this product in a manner inconsistent with its FIFRA pesticide labeling.**1.3 Details of the supplier of the Safety Data Sheet****Supplied By:** Valent BioSciences LLC
870 Technology Way
Libertyville, Illinois 60048**1.4 EMERGENCY TELEPHONE NUMBERS****Emergency Health or Spill:**

Outside the United States: 651-632-6184

Within the United States: 877-315-9819

2. HAZARDS IDENTIFICATION**2.1 Classification of the Substance or Mixture**

Not Classified

2.2 Labeling Elements**Symbol(s)**

Symbols not required

Signal Word

WARNING

Hazard Statement(s)

None

VectoBac® WDG Biological Larvicide

SDS# VBC-0019 Revision 3

ISSUED 04/28/17

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

2.3 Precautionary Statement:**Prevention**

Wash hands and face thoroughly after handling

Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/ attention.

Disposal

Dispose of contents/container in accordance with local/regional/national regulations.

2.4 Other Hazards

None identified.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Component Name	Percent
None	<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i> , strain AM65-52	37.4
Trade Secret	Other ingredients	62.6

4. FIRST AID MEASURES**4.1 Description of First Aid Measures****GENERAL:** In all cases of doubt, seek medical attention.**EYES:** Remove from source of exposure. Flush with copious amounts of water. Remove contact lenses, if present and easy to do, after the first 5 minutes, then continue rinsing. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic /supportive care as necessary.**SKIN:** Remove from source of exposure. Take off contaminated clothing. Flush with copious amounts of water. If irritation occurs or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.**INGESTION:** Remove from source of exposure. Move person to fresh air. Do NOT induce vomiting. If signs of toxicity occur, seek medical attention. Provide symptomatic /supportive care as necessary.**INHALATION:** Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary. If person is not breathing, call 911, then give artificial respiration.

VectoBac® WDG Biological Larvicide

SDS# VBC-0019 Revision 3

ISSUED 04/28/17

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

4.2 Most important Symptoms and Effects, both Acute and Delayed**Acute**

Possible eye and skin irritation

Delayed

No information on significant adverse effects

4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically and supportively

5. FIRE FIGHTING PROCEDURES**5.1 Extinguisher Media****Suitable Extinguisher Media**

Dry chemical, water spray, foam or carbon dioxide. Use appropriate medium for the underlying cause of the fire.

Unsuitable Extinguisher Media

None known

5.2 Specific Hazards Arising from the Chemical**Thermal decomposition products**

Carbon oxides, nitrogen oxides

5.3 Advice to Firefighters**Protective Equipment and precautions for firefighters**

Fire fighter should wear full-face, self-contained breathing apparatus and impervious protective clothing. Fire fighters should avoid inhaling combustion products. See Section 8 (Exposure Controls / Personal Protection)

Fire & Explosive hazard

Not expected to be flammable.

6. ACCIDENTAL RELEASE MEASURES**6.1 Personal Precautions, Protective Equipment and Emergency Procedures**

For respiratory protection wear a dust mask. Wear eye protection appropriate to handling activities. Wear impervious gloves. See personal protection as recommended in Section 8.

VectoBac® WDG Biological Larvicide

SDS# VBC-0019 Revision 3

ISSUED 04/28/17

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

6.2 Environmental Precautions

Dispose of excess product and washwaters according to local regulations.

6.3 Methods and Materials for Containment and Cleaning Up

Wear appropriate personal protective equipment. Sweep up material and place in appropriate container for disposal. Avoid generating dust.

6.4 Reference to Other Sections

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations. See Section 13 for Disposal Considerations.

7. HANDLING AND STORAGE**7.1 Precautions for Safe handling**

For respiratory protection wear a dust mask. Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Do not eat, drink, chew gum or smoke while working with product, obey reasonable safety precautions and practice good housekeeping.

7.2 Conditions for Safe Storage, Including Incompatibilities

Protect against physical damage. Keep in original containers. Close containers of unused material. Store in a dry, cool place.

Incompatibilities

None Known

7.3 Specific End Use(s)

Biological mosquito larvicide

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control Parameters****Component Exposure Limits**

None

Derived No Effect Levels (DNELs)

No DNELs available

Predicted No Effect Concentrations (PNECs)

No PNECs available

VectoBac® WDG Biological Larvicide

SDS# VBC-0019 Revision 3

ISSUED 04/28/17

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

8.2 Exposure Controls

Appropriate Engineering Controls

Provide general ventilation.

SKIN PROTECTION:

Wear protective clothing, including boots and gloves. For filling operations if dust/mist is produced wear a dust mask. Wash thoroughly with soap and water after handling.

EYE PROTECTION:

Wear goggles, safety glasses with side shields.

RESPIRATORY PROTECTION:

Where respiratory protection is warranted, use dust/mist filtering respirator (MSHA/NIOSH approved number prefix TC-21C or a NIOSH approved respirator with any N, P, R or HE filter during application procedures or when repeat exposure is expected.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor:	Brown fine granules	Odor :	Musty odor
pH:	5.8 (10% dispersion in water)	Boiling Point:	Not Determined
Melting Point:	Not Applicable	Solubility (H ₂ O):	Suspends and partially soluble
Specific Gravity:	Not Determined	Bulk Density:	0.36 g/ml
Octanol/H ₂ O Coeff:	Not Determined	Evaporation Rate:	Not Determined
Molecular Weight:	Not Applicable	Decomposition Temp.:	Not Determined
Auto Ignition:	Not Determined	LFL:	Not Determined
Flash Point:	Not Determined	UFL:	Not Determined
Vapor Density:	Not Determined	Vapor Pressure:	Not Applicable
VOC:	Not Determined	Kinematic Viscosity:	Not Determined

10. CHEMICAL STABILITY AND REACTIVITY

10.1 Reactivity

Material does not pose a significant reactivity hazard.

10.2 Chemical Stability

Stable under ordinary conditions of use and storage. Spontaneous reaction not possible.

10.3 Possibility of Hazardous Reactions

Does not undergo hazardous polymerization

10.4 Conditions to Avoid

None known

VectoBac® WDG Biological Larvicide

SDS# VBC-0019 Revision 3

ISSUED 04/28/17

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

10.5 Incompatible Materials

None known

10.6 Hazardous Decomposition Products

Carbon oxides and unidentified organic compounds.

11. TOXICOLOGICAL INFORMATION**11.1 Information on Toxicological Effects**

LIKELY ROUTES OF EXPOSURE

Eye Contact: Yes

Skin Contact: Yes

Ingestion: No

Inhalation: No

ACUTE EFFECTS Product Toxicology Studies (Data for product)ORAL TOXICITY: LD₅₀ > 5,000 mg/kg (rat)DERMAL TOXICITY: LD₅₀ > 5,000 mg/kg (rabbit)INHALATION TOXICITY: LC₅₀ > 0.014 mg/L air (rat- nose only; maximum feasible concentration)

CORROSIVENESS: Not corrosive.

DERMAL IRRITATION: Weakly irritating

OCULAR IRRITATION: Mildly irritating

DERMAL SENSITIZATION: Not a sensitizer (guinea pig)

MUTAGENICITY INFORMATION: Components of this product are not listed as mutagens.

CARCINOGENICITY INFORMATION: Components of this product are not listed as carcinogenic by NTP, IARC or OSHA.

DEVELOPMENTAL/REPRODUCTIVE TOXICITY: This material is not pathogenic

SPECIAL TARGET ORGAN EFFECTS: Not Applicable.

ASPIRATION HAZARD: Not Applicable

REPEAT DOSE STUDIES: Not Applicable, Pathogenicity Toxicity testing was all negative

12. ECOLOGICAL INFORMATION**12.1 Ecotoxicity (Data for a Concentrated Technical Powder)**Fish: LC₅₀ >370 mg/L (96-H, Rainbow Trout)Bird: LC₅₀ >3077 mg /kg (6.2 x 10¹¹ cfu/kg) (Acute Oral - Bobwhite Quail)LC₅₀ >3077 mg /kg (6.2 x 10¹¹ cfu/kg) each day for 5 days (Sub-Acute Oral (dietary) - Bobwhite Quail)Invertebrates: EC₅₀ >50 mg/L (48-H) (Daphnia)

Bees: Essentially nontoxic to honey bees

VectoBac® WDG Biological Larvicide

SDS# VBC-0019 Revision 3

ISSUED 04/28/17

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

12.2 Persistence and Degradability

No data available

12.3 Bioaccumulation potential

Not applicable

12.4 Mobility in Soil

No data available

12.5 Results of PBT and vPvB assessment

Assessments not performed

12.6 Other adverse effects

None known

13. DISPOSAL CONSIDERATIONS**13.1 Waste Disposal Methods**

Dispose of product in accordance with federal, state, provincial, and local regulations. Prevent contamination of environment by wastes.

US EPA WASTE NUMBER & DESCRIPTIONS:

There is no applicable EPA waste number. This product, if discarded, is not expected to be a characteristic or listed hazardous waste.

14. TRANSPORTATION INFORMATION

DOT STATUS: Not regulated for domestic ground transport by US DOT
UN PROPER SHIPPING NAME: N/A
REMARKS: N/A

IATA/ICA0 STATUS: Not Regulated
PROPER SHIPPING NAME: N/A
REMARKS: N/A

IMDG STATUS: Not Regulated
PROPER SHIPPING NAME: N/A
REMARKS: N/A

VectoBac® WDG Biological Larvicide

SDS# VBC-0019 Revision 3

ISSUED 04/28/17

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

15. REGULATORY INFORMATION**15.1 Safety, Health and Environmental Regulations / Specific Legislation**

TSCA STATUS: Exempt

CERCLA STATUS: Not regulated as hazardous

SARA STATUS: Acute: No Chronic: No Fire: No CDT: No

RCRA STATUS: Not regulated as hazardous

State Right-To-Know: Not Listed

Consult applicable national, state provincial or local laws to determine regulations, laws or ordinances which may be applicable.

OSHA HAZARD COMMUNICATION STANDARD: Not defined by the OSHA Hazard Communication Standard, 29 CFR

15.2 EPA Pesticide Regulations

EPA Registration Number: 73049-56

EPA Pesticide Label signal word: CAUTION

Product must have EPA Approved Pesticide Label attached to or accompanying all containers.

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions and limitations for its use.

KEEP OUT OF REACH OF CHILDREN**CAUTION****PRECAUTIONARY STATEMENTS****HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

Harmful if inhaled. Avoid breathing dust. Remove contaminated clothing and wash before reuse. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

ENVIRONMENTAL HAZARDS

Do not apply directly to treated finished drinking water reservoirs.

VectoBac® WDG Biological Larvicide

SDS# VBC-0019 Revision 3

ISSUED 04/28/17

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Storage: Store in cool [59-86°F (15-30°C)], dry place.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Handling:

Plastic Container: Nonrefillable container. Do not reuse or refill this container.

Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

16. OTHER INFORMATION**NFPA Hazard Ratings**

Health: 0
Flammability: 0
Instability: 0

HMIS Hazard Ratings

Health: 0
Flammability: 0
Instability: 0

0 = Minimal
1 = Slight
2 = Moderate
3 = Serious
4 = Extreme

REASON FOR ISSUE: General review and update

APPROVAL DATE: 04/28/17

SUPERSEDES DATE: 03/11/16

LEGEND: N/A = Not Applicable

N/L = Not Listed

C = Ceiling

(R) = Registered Trademark of Valent BioSciences

(TM) = Registered Trademark of Valent BioSciences

N/D = Not Determined

L = Listed

S = Short-term

VectoBac® WDG Biological Larvicide**SDS# VBC-0019 Revision 3****ISSUED 04/28/17**

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

The information provided in this Safety Data Sheet (SDS) is provided in good faith and believed to be accurate at the time of preparation of the SDS. However, to the extent consistent with applicable law, Valent BioSciences LLC and its subsidiaries or affiliates extend no warranties, make no representations, and assume no responsibility as to the accuracy, suitability, or completeness of such information. Additionally, to the extent consistent with applicable law, neither Valent BioSciences LLC nor any of its subsidiaries or affiliates represents or guarantees that this information or product may be used without infringing the intellectual property rights of others. Except to the extent a particular use and particular information are expressly stated on the product label, it is the users' own responsibility to determine the suitability of this information for their own particular use of this product. If necessary, contact Valent BioSciences LLC to confirm that you have the most current product label and SDS.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABEL (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use as required by the Occupational Health and Safety Act (29 CFR 1910.1200, "Hazcom"). The product label provides information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products is regulated by the EPA under the authority of FIFRA through the product label. All necessary hazard classification and appropriate precautionary use, storage, and disposal information is set forth on that label or labeling accompanying the pesticide or to which reference is made on the label. It is a violation of federal law to use an EPA-registered pesticide product in any manner inconsistent with its labeling.

VectoLex® WDG

BIOLOGICAL LARVICIDE

WATER DISPERSIBLE GRANULE

ACTIVE INGREDIENT:

Bacillus sphaericus 2362, Serotype H5a5b, Strain
ABTS 1743 fermentation solids, spores and
insecticidal toxins 51.2% w/w

OTHER INGREDIENTS 48.8% w/w

TOTAL 100.0% w/w

Potency: This product contains 650 BslTU/mg or 0.299 Billion BslTU/lb.

The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

EPA Reg. No. 73049-57

EPA Est. No. 33762-IA-001

List No. 60201

INDEX:

- 1.0 First Aid
- 2.0 Precautionary Statements
 - 2.1 Hazard to Humans and Domestic Animals
 - 2.2 Environmental Hazards
- 3.0 Directions for Use
 - 3.1 Chemigation
- 4.0 Storage and Disposal
- 5.0 Application Directions
- 6.0 Ground and Aerial Application
- 7.0 Notice to User

KEEP OUT OF REACH OF CHILDREN CAUTION

1.0

FIRST AID	
If in eyes	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15-20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• Call a poison control center or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none">• Move person to fresh air.• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible.• Call a poison control center or doctor for further treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-315-9819 (24 hours) for emergency medical treatment and/or transport emergency information. For all other information, call 1-800-323-9597.	

2.0 PRECAUTIONARY STATEMENTS

2.1 HAZARD TO HUMANS AND DOMESTIC ANIMALS CAUTION

Causes moderate eye irritation. Harmful if inhaled. Avoid contact with eyes or clothing and breathing dust or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Mixer/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

2.2 ENVIRONMENTAL HAZARDS

Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

3.0 DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

3.1 Chemigation

Do not apply this product through any type of irrigation system.

4.0 STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage: Store in cool [59-86°F (15-30°C)], dry place.

Pesticide Disposal: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after flow begins to drip. Repeat this procedure two more times. Then, offer for recycling, if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

5.0 APPLICATION DIRECTIONS

VectoLex® WDG Biological Larvicide Water Dispersible Granule (hereafter referred to as VectoLex WDG) is a selective microbial insecticide for use against mosquito larvae in a variety of habitats. VectoLex WDG can be applied to areas that contain fish, other aquatic life and plants. VectoLex WDG can be applied to areas used by or in contact with humans, pets, horses, livestock, birds, or wildlife.

Do not apply when wind speed favors drift beyond the area of treatment.

5.0 APPLICATION DIRECTIONS (Cont'd)

I. For control of mosquito larvae species* in the following non-crop sites.

Habitats Application Rate Range

Wastewater: 0.5-1.5 lbs/acre

Sewage effluent, sewage lagoons, oxidation ponds, septic ditches, animal waste lagoons, and impounded wastewater associated with fruit and vegetable processing (8-24 oz/acre)

Stormwater/Drainage Systems: 0.5-1.5 lbs/acre
Storm sewers, catch basins, drainage ditches, retention ponds, detention ponds and seepage ponds (8-24 oz/acre)

Marine/Coastal Areas: 0.5-1.5 lbs/acre
Salt marshes, mangroves, and estuaries (8-24 oz/acre)

Water Bodies: 0.5-1.5 lbs/acre
Natural and manmade aquatic sites such as lakes, ponds, rivers, canals and streams (8-24 oz/acre)

Dormant Rice Fields: 0.5-1.5 lbs/acre
Impounded water in dormant rice fields (For application only during the interval between harvest and preparation of the field for the next cropping cycle) (8-24 oz/acre)

II. For control of mosquito larvae species* in the following agricultural/crop sites where mosquito breeding occurs.

Habitats Rate Range

Rice, pastures/hay fields, orchards, citrus groves and irrigated crops 0.5-1.5 lbs/acre (8-24 oz/acre)

Use higher rates (1-1.5 lbs/acre or 16-24 oz/acre) in areas where extended residual control is necessary, or in habitats having deep water or dense surface cover.

Apply uniformly by aerial or conventional ground equipment. Reapply as needed after 1-4 weeks.

*Mosquito species effectively controlled by VectoLex WDG:

Culex spp.

Aedes vexans

Ochlerotatus melanimon (*Aedes melanimon*)

Ochlerotatus stimulans (*Aedes stimulans*)

Ochlerotatus nigromaculis (*Aedes nigromaculis*)

Psorophora columbiae

Psorophora ferox

Ochlerotatus triseriatus (*Aedes triseriatus*)

Ochlerotatus sollicitans (*Aedes sollicitans*)

Anopheles quadrimaculatus

Coquillettidia perturbans

6.0 GROUND AND AERIAL APPLICATION

VectoLex WDG may be applied using conventional ground or aerial application equipment with quantities of water sufficient to provide uniform coverage of the target area. For application, first add the VectoLex WDG to water to produce a final spray mixture. The amount of water will depend on weather, spray equipment, and mosquito habitat characteristics. For application, fill the mix tank or plane hopper with the desired quantity of water. **Start the mechanical or manual agitation to provide moderate circulation of water before adding the VectoLex WDG.** Backpack and compressed air sprayers may be agitated by shaking after adding VectoLex WDG to the water in the sprayer. VectoLex WDG suspends readily in water and will stay suspended over normal application periods. Brief recirculation may be necessary if the spray mixture has sat for several hours or longer. Do not mix more VectoLex WDG than can be used in a 48 hour period. **AVOID CONTINUOUS AGITATION OF THE SPRAY MIXTURE DURING SPRAYING.**

For ground application, apply 0.5-1.5 lbs or 8-24 oz (227-680 g) of VectoLex WDG in 5-100 gallons of water per acre using hand-pump, airblast, mist blower, or other spray equipment. For aerial application, apply 0.5-1.5 lbs or 8-24 oz (227-680 g) of VectoLex WDG per acre through fixed wing or helicopter aircraft equipped with either conventional boom and nozzle systems or rotary atomizers at a convenient dilution rate. For aerial application, apply 0.5-10 gal of the final spray mixture per acre to provide uniform coverage of the target area.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential spray drift. The applicator and treatment coordinator are responsible for considering all these factors.

Rinse and flush spray equipment thoroughly following each use.

Amount of VectoLex WDG needed to treat small areas:

Area To Treat	Application Rate of VectoLex WDG/Acre		
	0.5 lb (8 oz)	1 lb (16 oz)	1.5 lb (24 oz)
1/4 Acre	0.125 lb (2 oz)	0.25 lb (4 oz)	0.375 lb (6 oz)
1/2 Acre	0.25 lb (4 oz)	0.5 lb (8 oz)	0.75 lb (12 oz)
10 Acres	5 lb (80 oz)	10 lb (160 oz)	15 lb (240 oz)
20 Acres	10 lb (160 oz)	20 lb (320 oz)	30 lb (480 oz)

7.0 NOTICE TO USER

To the extent consistent with applicable law, Seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning use of this product other than as indicated on this label. To the extent consistent with applicable law, User assumes all risks of use, storage or handling not in accordance with accompanying directions.

VectoLex is a registered trademark of Valent BioSciences Corporation.

VectoLex[®] WDG Biological Larvicide

SDS# VBC-0045 Revision 1

ISSUED 03/10/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY**1.1 Product Identifier****MATERIAL NAME:** VectoLex[®] WDG Biological Larvicide**Synonyms:** VectoLex[®] WG, ABG-6491**EPA Reg No.:** 73049-57**Code Number:** 82835**List Number:** 60201**Chemical Family:** Not applicable; microbial product**Substance Registration Number(s)[REACH]:** N/A**1.2 Relevant Identified Uses and Uses Advised Against****Identified Uses:** Biological mosquito larvicide**Uses Advised Against:** It is a violation of Federal law to use this product in a manner inconsistent with its FIFRA pesticide labeling.**1.3 Details of the supplier of the Safety Data Sheet****Supplied By:** Valent BioSciences Corporation
870 Technology Way
Libertyville, Illinois 60048**1.4 EMERGENCY TELEPHONE NUMBERS****Emergency Health or Spill:**

Outside the United States: 651-632-6184

Within the United States: 877-315-9819

2. HAZARDS IDENTIFICATION**2.1 Classification of the Substance or Mixture**

Mildly irritating to eyes – Category 2B

2.2 Labeling Elements**Symbol(s)**

Symbols not required

Signal Word

WARNING

Hazard Statement(s)

Causes eye irritation

2.3 Precautionary Statement:**Prevention**

Wash hands and face thoroughly after handling

VectoLex® WDG Biological Larvicide

SDS# VBC-0045 Revision 1

ISSUED 03/10/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/ attention.

Disposal

Dispose of contents/container in accordance with local/regional/national regulations.

2.4 Other Hazards

None identified.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Component Name	Classification	Percent
None	<i>Bacillus sphaericus</i> 2362, serotype H5a5b, strain ABTS 1743 fermentation solids	Eye Irritation – Cat 2A Skin Sensitizer – Cat 1A	51.2%
Trade Secret	Other ingredients	Not classified	48.8%

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

GENERAL: In all cases of doubt, seek medical attention.

EYES: Remove from source of exposure. Flush with copious amounts of water. Remove contact lenses, if present and easy to do, after the first 5 minutes, then continue rinsing. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic /supportive care as necessary.

SKIN: Remove from source of exposure. Take off contaminated clothing. Flush with copious amounts of water. If irritation occurs or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

INGESTION: Remove from source of exposure. Move person to fresh air. Do NOT induce vomiting. If signs of toxicity occur, seek medical attention. Provide symptomatic /supportive care as necessary.

INHALATION: Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary. If person is not breathing, call 911, then give artificial respiration.

VectoLex® WDG Biological Larvicide

SDS# VBC-0045 Revision 1

ISSUED 03/10/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

4.2 Most important Symptoms and Effects, both Acute and Delayed**Acute**

Possible eye irritation

Delayed

No information on significant adverse effects

4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically and supportively

5. FIRE FIGHTING PROCEDURES**5.1 Extinguisher Media****Suitable Extinguisher Media**

Dry chemical, water spray, foam or carbon dioxide. Use appropriate medium for the underlying cause of the fire.

Unsuitable Extinguisher Media

None known

5.2 Specific Hazards Arising from the Chemical**Thermal decomposition products**

Carbon oxides, nitrogen oxides

5.3 Advice to Firefighters**Protective Equipment and precautions for firefighters**

Fire fighter should wear full-face, self-contained breathing apparatus and impervious protective clothing. Fire fighters should avoid inhaling combustion products. See Section 8 (Exposure Controls / Personal Protection)

Fire & Explosive hazard

Not expected to be flammable.

6. ACCIDENTAL RELEASE MEASURES**6.1 Personal Precautions, Protective Equipment and Emergency Procedures**

For respiratory protection wear a dust mask. Wear eye protection appropriate to handling activities. Wear gloves. See personal protection as recommended in Section 8.

6.2 Environmental Precautions

Dispose of excess product and washwaters according to local regulations.

6.3 Methods and Materials for Containment and Cleaning Up

Wear appropriate personal protective equipment. Sweep up material and place in appropriate

VectoLex® WDG Biological Larvicide

SDS# VBC-0045 Revision 1

ISSUED 03/10/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

container for disposal. Avoid generating dust.

6.4 Reference to Other Sections

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations. See Section 13 for Disposal Considerations.

US Regulations may require reporting spills of hazardous materials: See Section 15: REGULATORY INFORMATION for details on reportable quantities, if any.

7. HANDLING AND STORAGE**7.1 Precautions for Safe handling**

For respiratory protection wear a dust mask. Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Do not eat, drink, chew gum or smoke while working with product, obey reasonable safety precautions and practice good housekeeping.

7.2 Conditions for Safe Storage, Including Incompatibilities

Protect against physical damage. Keep in original containers. Close containers of unused material. Store in a dry, cool place.

Incompatibilities

None Known

7.3 Specific End Use(s)

Pesticide, biological mosquito larvicide

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control Parameters****Component Exposure Limits**

None

Derived No Effect Levels (DNELs)

No DNELs available

Predicted No Effect Concentrations (PNECs)

No PNECs available

8.2 Exposure Controls**Appropriate Engineering Controls**

Provide general ventilation.

VectoLex® WDG Biological Larvicide

SDS# VBC-0045 Revision 1

ISSUED 03/10/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

SKIN PROTECTION:

Wear protective clothing, including boots and gloves. For filling operations if dust/mist is produced wear a dust mask. Wash thoroughly with soap and water after handling.

EYE PROTECTION:

Wear Goggles, safety glasses with side shields or full-face shield when splashing or spraying of materials is likely.

RESPIRATORY PROTECTION:

Where respiratory protection is warranted, use dust/mist filtering respirator (MSHA/NIOSH approved number prefix TC-21C or a NIOSH approved respirator with any N, P, R or HE filter during application procedures or when repeat exposure is expected.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor:	Brown fine granules	Odor :	Faint musty odor
pH:	5.63 (1% sol'n)	Boiling Point:	Not Determined
Melting Point:	Not Applicable	Solubility (H ₂ O):	Not Determined
Specific Gravity:	Not Determined	Bulk Density:	Not Determined
Octanol/H ₂ O Coeff:	Not Determined	Evaporation Rate:	Not Determined
Molecular Weight:	Not Applicable	Decomposition Temp.:	Not Determined
Auto Ignition:	Not Determined	LFL:	Not Determined
Flash Point:	Not Determined	UFL:	Not Determined
Vapor Density:	Not Determined	Vapor Pressure:	Not Applicable
VOC:	Not Determined	Flammability Class:	None of the components are classified as flammable or highly flammable, it can be concluded that the preparation itself will not be classified as highly flammable.
Kinematic Viscosity:	Not Determined		

10. CHEMICAL STABILITY AND REACTIVITY

10.1 Reactivity

Material does not pose a significant reactivity hazard.

10.2 Chemical Stability

Stable under ordinary conditions of use and storage. Spontaneous reaction not possible.

10.3 Possibility of Hazardous Reactions

Does not undergo hazardous polymerization

10.4 Conditions to Avoid

None known

VectoLex® WDG Biological Larvicide

SDS# VBC-0045 Revision 1

ISSUED 03/10/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

10.5 Incompatible Materials

None known

10.6 Hazardous Decomposition Products

Carbon oxides and unidentified organic compounds.

11. TOXICOLOGICAL INFORMATION**11.1 Information on Toxicological Effects**

LIKELY ROUTES OF EXPOSURE

Eye Contact: Yes

Skin Contact: Yes

Ingestion: No

Inhalation: No

ACUTE EFFECTS Product Toxicology Studies (Data for product)ORAL TOXICITY: LD₅₀ > 5,050 mg/kg (rat)DERMAL TOXICITY: LD₅₀ > 5,050 mg/kg (rabbit)INHALATION TOXICITY: LC₅₀ > 0.435 mg/L air (maximum attainable concentration)

CORROSIVENESS: Not corrosive.

DERMAL IRRITATION: Slightly irritating

OCULAR IRRITATION: Mildly irritating

DERMAL SENSITIZATION: Not a sensitizer (guinea pig)

MUTAGENICITY INFORMATION: Components of this product are not listed as mutagens.

CARCINOGENICITY INFORMATION: Components of this product are not listed as carcinogenic by NTP, IARC or OSHA.

DEVELOPMENTAL/REPRODUCTIVE TOXICITY: This material is not pathogenic

SPECIAL TARGET ORGAN EFFECTS: Eye Irritation.

ASPIRATION HAZARD: Not Applicable

REPEAT DOSE STUDIES: Not Applicable, Pathogenicity Toxicity testing was all negative

12. ECOLOGICAL INFORMATION**12.1 Ecotoxicity (Data for a Concentrated Technical Powder)**Fish: LC₅₀ >15.5 mg/L (96-H, Rainbow Trout)LC₅₀ >15.5 mg/L (96-H, Blue Gill)Bird: LC₅₀ >9g /kg (Acute Oral - Mallard)Invertebrates: EC₅₀ >15.5 (48-H) (Daphnia)

Bees: Essentially non-toxic to bees

VectoLex® WDG Biological Larvicide

SDS# VBC-0045 Revision 1

ISSUED 03/10/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

12.2 Persistence and Degradability

No data available

12.3 Bioaccumulation potential

Not applicable. Substance is not pathogenic to non-target organisms

12.4 Mobility in Soil

No data available

12.5 Results of PBT and vPvB assessment

Assessments not performed

12.6 Other adverse effects

None known

13. DISPOSAL CONSIDERATIONS**13.1 Waste Disposal Methods**

Dispose of product in accordance with federal, state, provincial, and local regulations. Prevent contamination of environment by wastes.

US EPA WASTE NUMBER & DESCRIPTIONS:

There is no applicable EPA waste number. This product, if discarded, is not expected to be a characteristic or listed hazardous waste.

14. TRANSPORTATION INFORMATION

DOT STATUS: Not regulated for domestic ground transport by US DOT

UN PROPER SHIPPING NAME: N/A

REMARKS: N/A

IATA/ICAO STATUS: Not Regulated

PROPER SHIPPING NAME: N/A

REMARKS: N/A

IMDG STATUS: Not Regulated

PROPER SHIPPING NAME: N/A

REMARKS: N/A

VectoLex® WDG Biological Larvicide

SDS# VBC-0045 Revision 1

ISSUED 03/10/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

15. REGULATORY INFORMATION**15.1 Safety, Health and Environmental Regulations / Specific Legislation**

TSCA STATUS: Exempt

CERCLA STATUS: Not regulated as hazardous

SARA STATUS: Acute: No Chronic: No Fire: No CDT: No

RCRA STATUS: Not regulated as hazardous

State Right-To-Know: Not Listed

Consult applicable national, state provincial or local laws to determine regulations, laws or ordinances which may be applicable.

OSHA HAZARD COMMUNICATION STANDARD: Not defined by the OSHA Hazard Communication Standard, 29 CFR

15.2 EPA Pesticide Regulations

EPA Registration Number: 73049-57

EPA Pesticide Label signal word: CAUTION

Product must have EPA Approved Pesticide Label attached to or accompanying all containers.

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions and limitations for its use.

KEEP OUT OF REACH OF CHILDREN**CAUTION****PRECAUTIONARY STATEMENTS****HAZARDS TO HUMANS AND DOMESTIC ANIMALS****CAUTION**

Causes moderate eye irritation. Harmful if inhaled. Avoid contact with eyes or clothing and breathing dust or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Mixer/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

ENVIRONMENTAL HAZARDS

Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

VectoLex® WDG Biological Larvicide

SDS# VBC-0045 Revision 1

ISSUED 03/10/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage:

Store in cool [59-86° F (15-30° C)], dry place.

Pesticide Disposal:

Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling:

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, offer for recycling, if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

16. OTHER INFORMATION**NFPA Hazard Ratings**

Health: 1
Flammability: 0
Instability: 0

HMIS Hazard Ratings

Health: 1
Flammability: 0
Instability: 0

0 = Minimal
1 = Slight
2 = Moderate
3 = Serious
4 = Extreme

REASON FOR ISSUE: Update Transportation Info and Warranty

APPROVAL DATE: 03/10/16

SUPERSEDES DATE: 04/22/15

LEGEND: N/A = Not Applicable

N/L = Not Listed

C = Ceiling

(R) = Registered Trademark of Valent BioSciences Corp.

(TM) = Registered Trademark of Valent BioSciences Corp.

N/D = Not Determined

L = Listed

S = Short-term

VectoLex® WDG Biological Larvicide**SDS# VBC-0045 Revision 1****ISSUED 03/10/16**

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

Corporation and its subsidiaries or affiliates extend no warranties, make no representations, and assume no responsibility as to the accuracy, suitability, or completeness of such information. Additionally, to the extent consistent with applicable law, neither Valent BioSciences Corporation nor any of its subsidiaries or affiliates represents or guarantees that this information or product may be used without infringing the intellectual property rights of others. Except to the extent a particular use and particular information are expressly stated on the product label, it is the users' own responsibility to determine the suitability of this information for their own particular use of this product. If necessary, contact Valent BioSciences Corporation to confirm that you have the most current product label and SDS.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABEL (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use as required by the Occupational Health and Safety Act (29 CFR 1910.1200, "Hazcom"). The product label provides information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products is regulated by the EPA under the authority of FIFRA through the product label. All necessary hazard classification and appropriate precautionary use, storage, and disposal information is set forth on that label or labeling accompanying the pesticide or to which reference is made on the label. It is a violation of federal law to use an EPA-registered pesticide product in any manner inconsistent with its labeling.



ACTIVE INGREDIENTS:

<i>Bacillus sphaericus</i> 2362, Serotype H5a5b, Strain ABTS 1743 Fermentation Solids, Spores, and Insecticidal Toxins	2.7%
<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i> Serotype H-14, Strain AM65-52 Fermentation Solids, Spores, and Insecticidal Toxins	4.5%
OTHER INGREDIENTS	92.8%
TOTAL	100.0%

Potency: This product contains 50 BsITU/mg or 0.023 Billion BsITU/lb.
Expiration Date: (Two years from date of manufacture)

The percent active ingredient does not indicate product performance and potency measurements are not Federally standardized.

EPA Reg. No. 73049-429
EPA Est. No. 33762-IA-001 List No. 05750
US Patent No. 7,989,180, US Patent No. 8,454,983

INDEX:

- 1.0 First Aid
- 2.0 Precautionary Statements
 - 2.1 Hazard to Humans (and Domestic Animals)
 - 2.2 Environmental Hazards
- 3.0 Directions for Use
- 4.0 Application Directions
- 5.0 Storage and Disposal
- 6.0 Warranty and Disclaimer

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

1.0

FIRST AID	
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
HOT LINE NUMBER	
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-315-9819 (24 hours) for emergency medical treatment and/or transport emergency information. For all other information, call 1-800-323-9597.</p>	

2.0

PRECAUTIONARY STATEMENTS

2.1

**Hazards To Humans and Domestic Animals
CAUTION**

Causes moderate eye irritation. Harmful if absorbed through the skin or inhaled. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes, or clothing. Avoid breathing dust. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Mixers/loaders and applicators not in enclosed cabs or aircraft, must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

2.2

Environmental Hazards

Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

3.0

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

For use only by federal, state, tribal or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform mosquito control applications, or by persons under their direct supervision.

IN CALIFORNIA: This product is to be applied by County Health Department, State Department of Health Services, Mosquito and Vector Control or Mosquito Abatement District personnel, or persons under contract to these entities only.

4.0

APPLICATION DIRECTIONS

MOSQUITO CONTROL

VectoMax® FG Biological Larvicide Fine Granule (hereafter referred to as VectoMax FG) is a selective microbial insecticide for use against mosquito larvae in a variety of habitats. VectoMax FG can be applied to areas that contain fish, other aquatic life, and plants. VectoMax FG can be applied to areas used by or in contact with humans, pets, horses, livestock, birds, or wildlife.

I. For control of mosquito larvae in the following non-crop sites:

Habitat	Application Rate Range
Wastewater:	
Sewage effluent, sewage lagoons, oxidation ponds, septic ditches, animal waste lagoons, and impound wastewater associated with fruit and vegetable processing.	5-20 lbs/acre*
Storm Water/Drainage Systems:	
Drainage ditches, roadside ditches, retention ponds, detention ponds, and seepage ponds.	5-20 lbs/acre*
Marine/Coastal Areas:	
Tidal water, salt marshes, mangroves, and estuaries.	5-20 lbs/acre*
Water Bodies:	
Natural and manmade aquatic sites such as lakes, ponds, canals, rivers and streams (including river & stream edges), floodplains, swamps, marshes, irrigation ditches, flood water, woodland pools, snow melt pools and livestock watering ponds and troughs.	5-20 lbs/acre*
Waste Tires:	
Tires stockpiled in dumps, landfills, recycling plants, and other similar sites.	0.5-2 lbs/ 1000 sq. ft.

II. For control of mosquito larvae in agricultural/crop sites where mosquito breeding occurs.

Habitat	Application Rate Range
Rice fields, pastures/hay fields, orchards (including citrus groves, peaches, almonds, dates, and walnuts), asparagus fields, corn fields, cotton fields, alfalfa fields, and vineyards.	5-20 lbs/acre*

Apply VectoMax FG uniformly by aerial or conventional ground equipment. Reapply VectoMax FG as needed (after 1-4 weeks under typical environmental conditions).

*Use higher application rates (10-20 lbs/acre) in areas where 4th instar *Aedes* or *Ochlerotatus* spp. larvae predominate, or in areas where very high densities of late instar mosquito larvae are present, or under conditions where local experience indicates the need for higher application rates to achieve extended residual control.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the treatment coordinator are responsible for considering all these factors when making decisions.

5.0

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Pesticide Storage: Store in a cool, dry place.

Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

Container Handling: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration. Do not burn, unless allowed by State and local ordinances. If burned, stay out of smoke.

6.0

WARRANTY AND DISCLAIMER

To the extent consistent with applicable law, seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on this label. To the extent consistent with applicable law, user assumes all risks of use, storage, or handling not in accordance with the accompanying directions.

VectoMax is a registered trademark and BioFuse is a trademark of Valent BioSciences Corporation.

VectoMax® FG Biological Larvicide Fine Granules

SDS# VBC-0018 Revision 2

ISSUED 03/10/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY**1.1 Product Identifier****MATERIAL NAME:** VectoMax® FG**Synonyms:** VectoMax® G; VectoMax® WSP**EPA Reg No.:** 73049-429**Code Number:** N/A**List Number:** 05750**Chemical Family:** Not applicable; microbial product**Substance Registration Number(s)[REACH]:** N/A**1.2 Relevant Identified Uses and Uses Advised Against****Identified Uses:** Biological mosquito larvicide**Uses Advised Against:** It is a violation of Federal law to use this product in a manner inconsistent with its FIFRA pesticide labeling.**1.3 Details of the supplier of the Safety Data Sheet****Supplied By:** Valent BioSciences Corporation
870 Technology Way
Libertyville, Illinois 60048**1.4 EMERGENCY TELEPHONE NUMBERS****Emergency Health or Spill:**

Outside the United States: 651-632-6184

Within the United States: 877-315-9819

2. HAZARDS IDENTIFICATION**2.1 Classification of the Substance or Mixture**

Not Classified

2.2 Labeling Elements**Symbol(s)**

Symbols not required

Signal Word

WARNING

Hazard Statement(s)

None

VectoMax® FG Biological Larvicide Fine Granules

SDS# VBC-0018 Revision 2

ISSUED 03/10/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

2.3 Precautionary Statement:

Prevention

Wash hands and face thoroughly after handling

Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/ attention.

Disposal

Dispose of contents/container in accordance with local/regional/national regulations.

2.4 Other Hazards

None identified.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Component Name	Classification	Percent
None	<i>Bacillus sphaericus</i> 2362, strain ABTS-1743	Irritating to Eyes – Cat 2A Skin Sensitizer – Cat 1A	2.7%
None	<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i> , strain AM65-52	Irritating to Eyes – Cat 2B Skin Sensitizer – Cat 1B	4.5%
Trade Secret	Other ingredients	Not classified	92.8%

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

GENERAL: In all cases of doubt, seek medical attention.

EYES: Remove from source of exposure. Flush with copious amounts of water. Remove contact lenses, if present and easy to do, after the first 5 minutes, then continue rinsing. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic /supportive care as necessary.

SKIN: Remove from source of exposure. Take off contaminated clothing. Flush with copious amounts of water. If irritation occurs or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

INGESTION: Remove from source of exposure. Move person to fresh air. Do NOT induce vomiting. If signs of toxicity occur, seek medical attention. Provide symptomatic /supportive care as necessary.

VectoMax® FG Biological Larvicide Fine Granules

SDS# VBC-0018 Revision 2

ISSUED 03/10/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

INHALATION: Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary. If person is not breathing, call 911, then give artificial respiration.

4.2 Most important Symptoms and Effects, both Acute and Delayed**Acute**

Possible eye irritation and skin sensitization

Delayed

No information on significant adverse effects

4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically and supportively

5. FIRE FIGHTING PROCEDURES**5.1 Extinguisher Media****Suitable Extinguisher Media**

Dry chemical, water spray, foam or carbon dioxide. Use appropriate medium for the underlying cause of the fire.

Unsuitable Extinguisher Media

None known

5.2 Specific Hazards Arising from the Chemical**Thermal decomposition products**

Carbon oxides, nitrogen oxides

5.3 Advice to Firefighters**Protective Equipment and precautions for firefighters**

Fire fighter should wear full-face, self-contained breathing apparatus and impervious protective clothing. Fire fighters should avoid inhaling combustion products. See Section 8 (Exposure Controls / Personal Protection)

Fire & Explosive hazard

Not expected to be flammable.

6. ACCIDENTAL RELEASE MEASURES**6.1 Personal Precautions, Protective Equipment and Emergency Procedures**

Wear a dust/mist filtering respirator, eye protection and gloves.

VectoMax® FG Biological Larvicide Fine Granules

SDS# VBC-0018 Revision 2

ISSUED 03/10/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

6.2 Environmental Precautions

Dispose of excess product and washwaters according to local regulations.

6.3 Methods and Materials for Containment and Cleaning Up

Wear appropriate personal protective equipment. Sweep up material and place in appropriate container for disposal. Avoid generating dust. Do not flush to sewer.

6.4 Reference to Other Sections

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations. See Section 13 for Disposal Considerations.

US Regulations may require reporting spills of hazardous materials: See Section 15: REGULATORY INFORMATION for details on reportable quantities, if any.

7. HANDLING AND STORAGE**7.1 Precautions for Safe handling**

Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Do not eat, drink or smoke while working with product, obey reasonable safety precautions and practice good housekeeping.

7.2 Conditions for Safe Storage, Including Incompatibilities

Store in a cool, dry place.

Incompatibilities

None Known

7.3 Specific End Use(s)

Mosquito larvicide

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control Parameters****Component Exposure Limits**

None

Derived No Effect Levels (DNELs)

No DNELs available

Predicted No Effect Concentrations (PNECs)

No PNECs available

VectoMax® FG Biological Larvicide Fine Granules

SDS# VBC-0018 Revision 2

ISSUED 03/10/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

8.2 Exposure Controls

Appropriate Engineering Controls

Provide general ventilation.

SKIN PROTECTION:

Wear protective clothing, including boots and gloves. Wash thoroughly with soap and water after handling.

EYE PROTECTION:

Wear goggles, safety glasses with side shields or full-face shield when splashing or spraying of materials is likely.

RESPIRATORY PROTECTION:

Use dust/mist filtering respirator (MSHA/NIOSH approved number prefix TC-21C or a NIOSH approved respirator with any N, P, R or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor:	Yellow/Brown granular solid	Odor Threshold:	None discernible
pH:	≈ 5 (1% dispersion in water)	Boiling Point:	Not Determined
Melting Point:	Not Applicable	Solubility (H ₂ O):	Not Determined
Specific Gravity:	Not Determined	Bulk Density:	32 +/- 3 lbs/cu ft.
Octanol/H ₂ O Coeff:	Not Determined	Evaporation Rate:	Not Determined
Molecular Weight:	Not Applicable	Decomposition Temp.:	Not Determined
Auto Ignition:	Not Determined	LFL:	Not Determined
Flash Point:	Not Determined	UFL:	Not Determined
Vapor Density:	Not Determined	Vapor Pressure:	Not Applicable
VOC:	Not Determined	Flammability Class:	Non-flammable (per similar formulation)
Kinematic Viscosity:	Not Determined		

10. CHEMICAL STABILITY AND REACTIVITY

10.1 Reactivity

Material does not pose a significant reactivity hazard.

10.2 Chemical Stability

Stable under ordinary conditions of use and storage. Spontaneous reaction not possible.

10.3 Possibility of Hazardous Reactions

Does not undergo hazardous polymerization

10.4 Conditions to Avoid

None known

VectoMax® FG Biological Larvicide Fine Granules

SDS# VBC-0018 Revision 2

ISSUED 03/10/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

10.5 Incompatible Materials

None known

10.6 Hazardous Decomposition Products

Carbon oxides and unidentified organic compounds.

11. TOXICOLOGICAL INFORMATION**11.1 Information on Toxicological Effects**

LIKELY ROUTES OF EXPOSURE

Eye Contact: Yes

Skin Contact: Yes

Inhalation: No

Ingestion: No

ACUTE EFFECTS Product Toxicology Studies

ORAL TOXICITY: LD₅₀ > 5,000 mg/kg (rat)DERMAL TOXICITY: LD₅₀ > 2,000 mg/kg (rabbit)INHALATION TOXICITY: LC₅₀ > 2.84 mg/L air (rat)

CORROSIVENESS: Not corrosive.

DERMAL IRRITATION: Not-irritating, (Category IV)

OCULAR IRRITATION: Mildly-irritating, (Category IV)

DERMAL SENSITIZATION: Not a sensitizer (guinea pig)

MUTAGENICITY INFORMATION: Components of this product are not listed as mutagens.

CARCINOGENICITY INFORMATION: Components of this product are not listed as carcinogenic by NTP, IARC or OSHA.

DEVELOPMENTAL/REPRODUCTIVE TOXICITY: This material is not pathogenic

SPECIAL TARGET ORGAN EFFECTS: Eye and mucus membrane Irritation.

ASPIRATION HAZARD: Not Applicable

REPEAT DOSE STUDIES: Not Applicable, Pathogenicity Toxicity testing was all negative

12. ECOLOGICAL INFORMATION**12.1 Ecotoxicity (Data for a Concentrated Bti Technical Powder)**Fish: LC₅₀ >300 mg/L (96-H, Rainbow Trout)Bird: LC₅₀ >3077 mg /kg (6.2 x 10¹¹ cfu/kg) (Acute Oral - Bobwhite Quail)LC₅₀ >3077 mg /kg (6.2 x 10¹¹ cfu/kg) each day for 5 days (Sub-Acute Oral (dietary) - Bobwhite Quail)Invertebrates: EC₅₀ >50 mg/L (48-H) (Daphnia)

VectoMax® FG Biological Larvicide Fine Granules

SDS# VBC-0018 Revision 2

ISSUED 03/10/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

(Data for a Concentrated Bsp Technical Powder)Fish: LC₅₀ >15.5 mg/L (96-H, Rainbow Trout)Bird: LC₅₀ >9000 mg/kg (Acute Oral – Mallard)Invertebrates: EC₅₀ >15.5 mg/L (48-H) (Daphnia)**12.2 Persistence and Degradability**

No data available

12.3 Bioaccumulation potential

No data available

12.4 Mobility in Soil

No data available

12.5 Results of PBT and vPvB assessment

Assessments not performed

12.6 Other adverse effects

None known

13. DISPOSAL CONSIDERATIONS**13.1 Waste Disposal Methods**

Dispose of product in accordance with federal, state, provincial, and local regulations. Prevent contamination of environment by wastes.

US EPA WASTE NUMBER & DESCRIPTIONS:

There is no applicable EPA waste number. This product, if discarded, is not expected to be a characteristic or listed hazardous waste.

14. TRANSPORTATION INFORMATION

DOT STATUS: Not regulated for domestic ground transport by US DOT

UN PROPER SHIPPING NAME: N/A

REMARKS: N/A

IATA/ICA0 STATUS: Not Regulated

PROPER SHIPPING NAME: N/A

REMARKS: N/A

IMDG STATUS: Not Regulated

PROPER SHIPPING NAME: N/A

REMARKS: N/A

VectoMax® FG Biological Larvicide Fine Granules

SDS# VBC-0018 Revision 2

ISSUED 03/10/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

15. REGULATORY INFORMATION**15.1 Safety, Health and Environmental Regulations / Specific Legislation**

TSCA STATUS: Exempt

CERCLA STATUS: Not regulated as hazardous

SARA STATUS: Acute: No Chronic: No Fire: No CDT: No

RCRA STATUS: Not regulated as hazardous

State Right-To-Know: Not Listed

Consult applicable national, state provincial or local laws to determine regulations, laws or ordinances which may be applicable.

OSHA HAZARD COMMUNICATION STANDARD: Not defined by the OSHA Hazard Communication Standard, 29 CFR

15.2 EPA Pesticide Regulations

EPA Registration Number 73049-429

EPA Pesticide Label signal word

CAUTION

Product must have EPA Approved Pesticide Label attached to or accompanying all containers.

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions and limitations for its use.

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS****CAUTION**

Causes moderate eye irritation. Harmful if absorbed through the skin or inhaled. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes, or clothing. Avoid breathing dust. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Mixers/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

ENVIRONMENTAL HAZARDS

Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

VectoMax® FG Biological Larvicide Fine Granules

SDS# VBC-0018 Revision 2

ISSUED 03/10/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

For use only by federal, state, tribal or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform mosquito control applications, or by persons under their direct supervision.

IN CALIFORNIA: This product is to be applied by County Health Department, State Department of Health Services, Mosquito and Vector Control or Mosquito Abatement District personnel, or persons under contract to these entities only.

Storage and Disposal

Do not contaminate water, food or feed by storage or disposal.

PESTICIDE STORAGE: Store in a cool, dry place.

PESTICIDE DISPOSAL: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. If burned, stay out of smoke.

16. OTHER INFORMATION**NFPA Hazard Ratings**

Health: 1
Flammability: 0
Instability: 0

HMIS Hazard Ratings

Health: 1
Flammability: 0
Instability: 0

0 = Minimal
1 = Slight
2 = Moderate
3 = Serious
4 = Extreme

REASON FOR ISSUE: Update hazard classification and warranty

APPROVAL DATE: 03/10/16

SUPERSEDES DATE: 04/14/15

VectoMax® FG Biological Larvicide Fine Granules**SDS# VBC-0018 Revision 2****ISSUED 03/10/16**

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

LEGEND: N/A = Not Applicable

N/D = Not Determined

N/L = Not Listed

L = Listed

C = Ceiling

S = Short-term

(R) = Registered Trademark of Valent BioSciences Corp.

(TM) = Registered Trademark of Valent BioSciences Corp.

The information provided in this Safety Data Sheet (SDS) is provided in good faith and believed to be accurate at the time of preparation of the SDS. However, to the extent consistent with applicable law, Valent BioSciences Corporation and its subsidiaries or affiliates extend no warranties, make no representations, and assume no responsibility as to the accuracy, suitability, or completeness of such information. Additionally, to the extent consistent with applicable law, neither Valent BioSciences Corporation nor any of its subsidiaries or affiliates represents or guarantees that this information or product may be used without infringing the intellectual property rights of others. Except to the extent a particular use and particular information are expressly stated on the product label, it is the users' own responsibility to determine the suitability of this information for their own particular use of this product. If necessary, contact Valent BioSciences Corporation to confirm that you have the most current product label and SDS.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABEL (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use as required by the Occupational Health and Safety Act (29 CFR 1910.1200, "Hazcom"). The product label provides information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products is regulated by the EPA under the authority of FIFRA through the product label. All necessary hazard classification and appropriate precautionary use, storage, and disposal information is set forth on that label or labeling accompanying the pesticide or to which reference is made on the label. It is a violation of federal law to use an EPA-registered pesticide product in any manner inconsistent with its labeling.





FOR ORGANIC PRODUCTION

MADE WITH



ACTIVE INGREDIENTS:

<i>Bacillus sphaericus</i> 2362, Serotype H5a5b, Strain ABTS 1743 Fermentation Solids, Spores, and Insecticidal Toxins	2.7%
<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i> Serotype H-14, Strain AM65-52 Fermentation Solids, Spores, and Insecticidal Toxins	4.5%
OTHER INGREDIENTS	92.8%
TOTAL	100.0%

Potency: This product contains 50 BsITU/mg or 0.023 Billion BsITU/lb.

Expiration Date: (Two years from date of manufacture)

The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

EPA Reg. No. 73049-429 List No. 05750
 EPA Est. No. 33762-IA-001
 US Patent No. 7,989,180, US Patent No. 8,454,983

INDEX:

- 1.0 First Aid
- 2.0 Precautionary Statements
 - 2.1 Hazards to Humans and Domestic Animals
 - 2.2 Environmental Hazards
- 3.0 Directions for Use
- 4.0 Application Directions
- 5.0 Storage and Disposal
- 6.0 Warranty and Disclaimer

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

1.0

FIRST AID	
If in eyes	<ul style="list-style-type: none"> Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
If on skin or clothing	<ul style="list-style-type: none"> Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-315-9819 (24 hours) for emergency medical treatment and/or transport emergency information. For all other information, call 1-800-323-9597.</p>	

2.0

PRECAUTIONARY STATEMENTS

2.1

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION**

Causes moderate eye irritation. Harmful if absorbed through the skin. Prolonged or frequent skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling, and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

2.2

ENVIRONMENTAL HAZARDS

Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

3.0

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Once the foil bag containing VectoMax® WSP Biological Larvicide Fine Granule is opened, use pouches within one day.

For use only by federal, state, tribal or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform mosquito control applications, or by persons under their direct supervision.

IN CALIFORNIA: This product is to be applied by County Health Department, State Department of Health Services, Mosquito and Vector Control or Mosquito Abatement District personnel, or persons under contract to these entities only.

4.0 APPLICATION DIRECTIONS

MOSQUITO CONTROL

VectoMax WSP Biological Larvicide Fine Granule (hereafter referred to as VectoMax WSP) is a selective microbial insecticide for use against mosquito larvae in a variety of habitats. VectoMax WSP can be applied to areas that contain fish, other aquatic life, and plants. VectoMax WSP can be applied to areas used by or in contact with humans, pets, horses, livestock, birds, or wildlife.

For control of mosquito larvae in the following sites:

Habitat	Application Rate
---------	------------------

Drainage/Drainage Systems¹:

Catch basins and storm drains.	1 water soluble pouch/for up to 50 sq ft
--------------------------------	--

Treatment Areas (For Use In)²:

Ponds	Retention, detention and seepage ponds	Abandoned swimming pools
Lagoons	Animal waste lagoons	Unused swimming pools or spas
Hollow trees and tree holes	Flood water	Flooded basements
Urns	Standing water	Pool covers
Rain barrels	Storm water	Gutters and drains
Livestock watering troughs/ponds/tanks	retention areas	Wheelbarrows
Irrigation ditches	Birdbaths	Garbage cans and covers
Roadside ditches	Fountains	Discarded tires
Water gardens	Flowerpots and planters	
Impounded wastewater associated with fruit and vegetable processing	Snowmelt pools	
	Septic tanks	

Any location where water accumulates and remains standing for periods of time, except treated, finished water reservoirs or drinking water receptacles when the water is intended for human consumption

¹ Treat on basis of surface area of potential mosquito breeding sites by placing one (1) VectoMax Water Soluble Pouch for up to 50 square feet of treatment area. Re-apply VectoMax WSP as needed (after 6-8 weeks under typical environmental conditions).

² Treat on basis of surface area of potential mosquito breeding sites by placing one (1) VectoMax Water Soluble Pouch for up to 50 square feet of treatment area. Re-apply VectoMax WSP as needed (after 1-4 weeks under typical environmental conditions).

Longer periods of mosquito population suppression may result where sufficient numbers of non-target aquatic invertebrate parasites and predators are present since these are not affected by the product and contribute to mosquito population reduction.

5.0 STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Pesticide Storage: Store in a cool, dry place.

Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry.)

Container Handling: Offer foil pouch for recycling if available or dispose of empty pouch in the trash as long as the water soluble pouch is unbroken.

6.0 WARRANTY AND DISCLAIMER

To the extent consistent with applicable law, seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. To the extent consistent with applicable law, user assumes all risks of use, storage or handling not in strict accordance with accompanying directions.

VectoMax is a registered trademark of Valent BioSciences Corporation.



SAFETY DATA SHEET

1 of 11

VectoMax® FG Biological Larvicide Fine Granules

SDS# VBC-0018 Revision 4

ISSUED 01/03/20

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

1.1 Product Identifier

MATERIAL NAME: VectoMax® FG

Synonyms: VectoMax® G; VectoMax® WSP; VBC-60035

EPA Reg No.: 73049-429

Code Number: N/A

List Number: 05750

Chemical Family: Not applicable; microbial product

Substance Registration Number(s)[REACH]: N/A

1.2 Relevant Identified Uses and Uses Advised Against

Identified Uses: Biological mosquito larvicide

Uses Advised Against: It is a violation of Federal law to use this product in a manner inconsistent with its FIFRA pesticide labeling.

1.3 Details of the supplier of the Safety Data Sheet

Supplied By: Valent BioSciences LLC
1910 Innovation Way, Suite 100
Libertyville, Illinois 60048

1.4 EMERGENCY TELEPHONE NUMBERS

Emergency Health or Spill:

Outside the United States: 651-632-6184

Within the United States: 877-315-9819

2. HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

Not Classified

2.2 Labeling Elements

Symbol(s)

Symbols not required

Signal Word

WARNING

Hazard Statement(s)

None



VectoMax® FG Biological Larvicide Fine Granules

SDS# VBC-0018 Revision 4

ISSUED 01/03/20

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

2.3 Precautionary Statement:**Prevention**

Wash hands and face thoroughly after handling

Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/ attention.

Disposal

Dispose of contents/container in accordance with local/regional/national regulations.

2.4 Other Hazards

None identified.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Component Name	Percent
None	<i>Bacillus sphaericus</i> 2362, strain ABTS-1743	2.7
None	<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i> , strain AM65-52	4.5
Trade Secret	Other ingredients	92.8

4. FIRST AID MEASURES**4.1 Description of First Aid Measures****GENERAL:** In all cases of doubt, seek medical attention.**EYES:** Remove from source of exposure. Flush with copious amounts of water. Remove contact lenses, if present and easy to do, after the first 5 minutes, then continue rinsing. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic /supportive care as necessary.**SKIN:** Remove from source of exposure. Take off contaminated clothing. Flush with copious amounts of water. If irritation occurs or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.**INGESTION:** Remove from source of exposure. Move person to fresh air. Do NOT induce vomiting. If signs of toxicity occur, seek medical attention. Provide symptomatic /supportive care as necessary.

**VectoMax® FG Biological Larvicide Fine Granules**

SDS# VBC-0018 Revision 4

ISSUED 01/03/20

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

INHALATION: Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary. If person is not breathing, call 911, then give artificial respiration.

4.2 Most important Symptoms and Effects, both Acute and Delayed**Acute**

Possible eye irritation and skin sensitization

Delayed

No information on significant adverse effects

4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically and supportively

5. FIRE FIGHTING PROCEDURES**5.1 Extinguisher Media****Suitable Extinguisher Media**

Dry chemical, water spray, foam or carbon dioxide. Use appropriate medium for the underlying cause of the fire.

Unsuitable Extinguisher Media

None known

5.2 Specific Hazards Arising from the Chemical**Thermal decomposition products**

Carbon oxides, nitrogen oxides

5.3 Advice to Firefighters**Protective Equipment and precautions for firefighters**

Fire fighter should wear full-face, self-contained breathing apparatus and impervious protective clothing. Fire fighters should avoid inhaling combustion products. See Section 8 (Exposure Controls / Personal Protection)

Fire & Explosive hazard

Not expected to be flammable.

**VectoMax® FG Biological Larvicide Fine Granules**

SDS# VBC-0018 Revision 4

ISSUED 01/03/20

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

6. ACCIDENTAL RELEASE MEASURES**6.1 Personal Precautions, Protective Equipment and Emergency Procedures**

Wear a dust/mist filtering respirator, eye protection and gloves.

6.2 Environmental Precautions

Dispose of excess product and washwaters according to local regulations.

6.3 Methods and Materials for Containment and Cleaning Up

Wear appropriate personal protective equipment. Sweep up material and place in appropriate container for disposal. Avoid generating dust. Do not flush to sewer.

6.4 Reference to Other Sections

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations. See Section 13 for Disposal Considerations.

US Regulations may require reporting spills of hazardous materials: See Section 15: REGULATORY INFORMATION for details on reportable quantities, if any.

7. HANDLING AND STORAGE**7.1 Precautions for Safe handling**

Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Do not eat, drink or smoke while working with product, obey reasonable safety precautions and practice good housekeeping.

7.2 Conditions for Safe Storage, Including Incompatibilities

Store in a cool, dry place.

Incompatibilities

None Known

7.3 Specific End Use(s)

Mosquito larvicide



SAFETY DATA SHEET

5 of 11

VectoMax® FG Biological Larvicide Fine Granules

SDS# VBC-0018 Revision 4

ISSUED 01/03/20

[Classification according to OSHA: 29 CFR § 1910.1200, (3/12/2012)]

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters

Component Exposure Limits

None

Derived No Effect Levels (DNELs)

No DNELs available

Predicted No Effect Concentrations (PNECs)

No PNECs available

8.2 Exposure Controls

Appropriate Engineering Controls

Provide general ventilation.

SKIN PROTECTION:

Wear protective clothing, including boots and gloves. Wash thoroughly with soap and water after handling.

EYE PROTECTION:

Wear goggles, safety glasses with side shields or full-face shield when splashing or spraying of materials is likely.

RESPIRATORY PROTECTION:

Use dust/mist filtering respirator (MSHA/NIOSH approved number prefix TC-21C or a NIOSH approved respirator with any N, P, R or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor:	Yellow/Brown granular solid	Odor Threshold:	None discernible
pH:	≈ 5 (1% dispersion in water)	Boiling Point:	Not Determined
Melting Point:	Not Applicable	Solubility (H ₂ O):	Not Determined
Specific Gravity:	Not Determined	Bulk Density:	32 +/- 3 lbs/cu ft.
Octanol/H ₂ O Coeff:	Not Determined	Evaporation Rate:	Not Determined
Molecular Weight:	Not Applicable	Decomposition Temp.:	Not Determined
Auto Ignition:	Not Determined	LFL:	Not Determined
Flash Point:	Not Determined	UFL:	Not Determined
Vapor Density:	Not Determined	Vapor Pressure:	Not Applicable
VOC:	Not Determined	Flammability Class:	Non-flammable (per similar formulation)
Kinematic Viscosity:	Not Determined		



VectoMax® FG Biological Larvicide Fine Granules

SDS# VBC-0018 Revision 4

ISSUED 01/03/20

[Classification according to OSHA: 29 CFR § 1910.1200, (3/12/2012)]

10. CHEMICAL STABILITY AND REACTIVITY**10.1 Reactivity**

Material does not pose a significant reactivity hazard.

10.2 Chemical Stability

Stable under ordinary conditions of use and storage. Spontaneous reaction not possible.

10.3 Possibility of Hazardous Reactions

Does not undergo hazardous polymerization

10.4 Conditions to Avoid

None known

10.5 Incompatible Materials

None known

10.6 Hazardous Decomposition Products

Carbon oxides and unidentified organic compounds.

11. TOXICOLOGICAL INFORMATION**11.1 Information on Toxicological Effects**

LIKELY ROUTES OF EXPOSURE

Eye Contact: Yes

Skin Contact: Yes

Inhalation: No

Ingestion: No

ACUTE EFFECTS: Product Toxicology StudiesORAL TOXICITY: LD₅₀ > 5,000 mg/kg (rat)DERMAL TOXICITY: LD₅₀ > 2,000 mg/kg (rabbit)INHALATION TOXICITY: LC₅₀ > 2.84 mg/L air (rat)

CORROSIVENESS: Not corrosive.

DERMAL IRRITATION: Not-irritating, (EPA Tox Category IV)

OCULAR IRRITATION: Mildly-irritating, (EPA Tox Category IV)

DERMAL SENSITIZATION: Not a sensitizer (guinea pig)

**VectoMax® FG Biological Larvicide Fine Granules**

SDS# VBC-0018 Revision 4

ISSUED 01/03/20

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

MUTAGENICITY INFORMATION: Components of this product are not listed as mutagens.
CARCINOGENICITY INFORMATION: Components of this product are not listed as carcinogenic by NTP, IARC or OSHA.
DEVELOPMENTAL/REPRODUCTIVE TOXICITY: This material is not pathogenic
SPECIAL TARGET ORGAN EFFECTS: Eye and mucus membrane Irritation.
ASPIRATION HAZARD: Not Applicable
REPEAT DOSE STUDIES: Not Applicable, Pathogenicity Toxicity testing was all negative

12. ECOLOGICAL INFORMATION**12.1 Ecotoxicity (Data for a Concentrated Bti Technical Powder)**Fish: LC₅₀ >300 mg/L (96-H, Rainbow Trout)Bird: LC₅₀ >3077 mg /kg (6.2 x 10¹¹ cfu/kg) (Acute Oral - Bobwhite Quail)LC₅₀ >3077 mg /kg (6.2 x 10¹¹ cfu/kg) each day for 5 days (Sub-Acute Oral (dietary) - Bobwhite Quail)Invertebrates: EC₅₀ >50 mg/L (48-H) (Daphnia)**(Data for a Concentrated Bsp Technical Powder)**Fish: LC₅₀ >15.5 mg/L (96-H, Rainbow Trout)Bird: LC₅₀ >9000 mg /kg (Acute Oral – Mallard)Invertebrates: EC₅₀ >15.5 mg/L (48-H) (Daphnia)**12.2 Persistence and Degradability**

No data available

12.3 Bioaccumulation potential

No data available

12.4 Mobility in Soil

No data available

12.5 Results of PBT and vPvB assessment

Assessments not performed

12.6 Other adverse effects

None known

**VectoMax® FG Biological Larvicide Fine Granules**

SDS# VBC-0018 Revision 4

ISSUED 01/03/20

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

13. DISPOSAL CONSIDERATIONS**13.1 Waste Disposal Methods**

Dispose of product in accordance with federal, state, provincial, and local regulations. Prevent contamination of environment by wastes.

US EPA WASTE NUMBER & DESCRIPTIONS: There is no applicable EPA waste number. This product, if discarded, is not expected to be a characteristic or listed hazardous waste.

14. TRANSPORTATION INFORMATION

DOT STATUS: Not regulated for domestic ground transport by US DOT
UN PROPER SHIPPING NAME: N/A
REMARKS: N/A

IATA/ICA0 STATUS: Not Regulated
PROPER SHIPPING NAME: N/A
REMARKS: N/A

IMDG STATUS: Not Regulated
PROPER SHIPPING NAME: N/A
REMARKS: N/A

15. REGULATORY INFORMATION**15.1 Safety, Health and Environmental Regulations / Specific Legislation**

TSCA STATUS: Exempt

CERCLA STATUS: Not regulated as hazardous

SARA STATUS: Acute: No Chronic: No Fire: No CDT: No

RCRA STATUS: Not regulated as hazardous

State Right-To-Know: Not Listed

Consult applicable national, state provincial or local laws to determine regulations, laws or ordinances which may be applicable.

OSHA HAZARD COMMUNICATION STANDARD: Not defined by the OSHA Hazard Communication Standard, 29 CFR

**VectoMax® FG Biological Larvicide Fine Granules**

SDS# VBC-0018 Revision 4

ISSUED 01/03/20

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

15.2 EPA Pesticide Regulations

EPA Registration Number 73049-429

EPA Pesticide Label signal word

CAUTION

Product must have EPA Approved Pesticide Label attached to or accompanying all containers. This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions and limitations for its use.

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS****CAUTION**

Causes moderate eye irritation. Harmful if absorbed through the skin or inhaled. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes, or clothing. Avoid breathing dust. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Mixers/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

ENVIRONMENTAL HAZARDS

Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

For use only by federal, state, tribal or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform mosquito control applications, or by persons under their direct supervision.



SAFETY DATA SHEET

VectoMax® FG Biological Larvicide Fine Granules

SDS# VBC-0018 Revision 4

ISSUED 01/03/20

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

IN CALIFORNIA: This product is to be applied by County Health Department, State Department of Health Services, Mosquito and Vector Control or Mosquito Abatement District personnel, or persons under contract to these entities only.

Storage and Disposal

Do not contaminate water, food or feed by storage or disposal.

PESTICIDE STORAGE: Store in a cool, dry place.

PESTICIDE DISPOSAL: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. If burned, stay out of smoke.

16. OTHER INFORMATION

NFPA Hazard Ratings

HMIS Hazard Ratings

Health: 0
Flammability: 0
Instability: 0

Health: 0
Flammability: 0
Instability: 0

0 = Minimal
1 = Slight
2 = Moderate
3 = Serious
4 = Extreme

REASON FOR ISSUE: Address Change
APPROVAL DATE: 01/03/20
SUPERSEDES DATE: 02/28/18

LEGEND: N/A = Not Applicable
N/L = Not Listed
C = Ceiling

N/D = Not Determined
L = Listed
S = Short-term

(R) = Registered Trademark of Valent BioSciences LLC
(TM) = Registered Trademark of Valent BioSciences LLC



SAFETY DATA SHEET

11 of 11

VectoMax® FG Biological Larvicide Fine Granules

SDS# VBC-0018 Revision 4

ISSUED 01/03/20

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

The information provided in this Safety Data Sheet (SDS) is provided in good faith and believed to be accurate at the time of preparation of the SDS. However, to the extent consistent with applicable law, Valent BioSciences LLC and its subsidiaries or affiliates extend no warranties, make no representations, and assume no responsibility as to the accuracy, suitability, or completeness of such information. Additionally, to the extent consistent with applicable law, neither Valent BioSciences LLC nor any of its subsidiaries or affiliates represents or guarantees that this information or product may be used without infringing the intellectual property rights of others. Except to the extent a particular use and particular information are expressly stated on the product label, it is the users' own responsibility to determine the suitability of this information for their own particular use of this product. If necessary, contact Valent BioSciences LLC to confirm that you have the most current product label and SDS.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABEL (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use as required by the Occupational Health and Safety Act (29 CFR 1910.1200, "Hazcom"). The product label provides information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products is regulated by the EPA under the authority of FIFRA through the product label. All necessary hazard classification and appropriate precautionary use, storage, and disposal information is set forth on that label or labeling accompanying the pesticide or to which reference is made on the label. It is a violation of federal law to use an EPA-registered pesticide product in any manner inconsistent with its labeling.



1910 Innovation Way, Suite 100
Libertyville, IL 60048 – 800-323-9597

© Valent BioSciences LLC, 2020

VectoPrime[®] FG

BIOLOGICAL LARVICIDE

FINE GRANULE

MADE WITH



ACTIVE INGREDIENT:

<i>Bacillus thuringiensis</i> , subsp. <i>israelensis</i> , strain AM 65-52 fermentation solids, spores, and insecticidal toxins	6.07%
(S)-methoprene	0.10%
OTHER INGREDIENTS	93.83%
TOTAL	100.00%

Potency: 400 International Toxic Units (ITU) per mg or 0.182 billion ITU per pound

The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

EPA Reg. No. 73049-501

EPA Est. No. 33762-IA-001

List No. 05725

INDEX:

- 1.0 First Aid
- 2.0 Precautionary Statements
 - 2.1 Hazard to Humans and Domestic Animals
 - 2.2 Environmental Hazards
- 3.0 Directions for Use
- 4.0 Application Directions
- 5.0 Storage and Disposal
- 6.0 Notice to User

KEEP OUT OF REACH OF CHILDREN CAUTION

1.0

FIRST AID	
If in eyes	<ul style="list-style-type: none">• Hold eyes open and rinse slowly and gently with water for 15-20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes.• Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-315-9819 (24 hours) for emergency medical treatment and/or transport emergency information. For all other information, call 1-800-323-9597.	

2.0 PRECAUTIONARY STATEMENTS

2.1 Hazards To Humans and Domestic Animals

CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Mixers/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

2.2 Environmental Hazards

Do not contaminate water when cleaning equipment or disposing of equipment washwaters. Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

3.0 DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

For use only by federal, state, tribal or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform mosquito control applications, or by persons under their direct supervision.

IN CALIFORNIA: This product is to be applied by County Health Department, State Department of Health Services, Mosquito and Vector Control or Mosquito Abatement District personnel, or persons under contract to these entities only.

4.0 APPLICATION DIRECTIONS

VectoPrime[®] FG Biological Larvicide is an insecticide for use against mosquito larvae.

Mosquito Habitats	Application Rate Range*
-------------------	-------------------------

(Such as the following examples):

Irrigation ditches, roadside ditches, flood water, standing ponds, livestock watering ponds and troughs, woodland pools, snow melt pools, pastures, catch basins, storm water retention areas, tidal water, salt marshes and rice fields	1.25 - 20.0 lbs/acre*
--	-----------------------

In addition, standing water containing mosquito larvae, in fields growing crops such as (but not limited to) alfalfa, almonds, asparagus, corn, cotton, dates, grapes, peaches, sugar cane and walnuts may be treated at the recommended rates.

* Post-flood Applications

Use 1.25-4.0 lbs/acre against 1st-4th instar mosquito larvae. Use 4.0-10.0 lbs/acre when water is heavily polluted (e.g. sewage lagoons, animal waste lagoons), algae are abundant, and/or local experience suggests the need for higher rates. Re-treat as needed based on local conditions.

* Pre-flood Applications

VectoPrime FG can be applied prior to flooding of mosquito larval habitats. Use 10-20 lbs/acre when up to 7 days pre-flood capacity is needed. Use 20 lbs/acre when a 7-14 day pre-flood application is needed. Retreat as needed. Consult your local Valent BioSciences representative for further advice on pre-flood applications with VectoPrime FG.

CONTINUED

4.0 APPLICATION DIRECTIONS (Cont'd)

Apply uniformly by aerial or ground conventional equipment. Avoiding drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential for drift. The applicator and the treatment coordinator are responsible for considering all of these factors when making decisions.

5.0 STORAGE AND DISPOSAL

Do not contaminate potable water, food or feed by storage or disposal.

Pesticide Storage: Store in a cool, dry place.

Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

Container Handling: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration. Do not burn, unless allowed by State and local ordinances. If burned, stay out of smoke.

6.0 NOTICE TO USER

To the extent consistent with applicable law, seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning use of this product other than as indicated on the label. To the extent consistent with applicable law, user assumes all risks of use, storage or handling not in strict accordance with the accompanying directions.

VectoPrime is a registered trademark of Valent BioSciences Corporation.

VectoPrime® FG Biological Larvicide Fine Granules

SDS# VBC-0054 Revision 1

ISSUED 03/11/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY**1.1 Product Identifier****MATERIAL NAME:** VectoPrime® FG Biological Larvicide Fine Granules**Synonyms:** VBC-60394**EPA Reg No.:** 73049-501**Code Number:** None**List Number:** 05725**Chemical Family:** Not applicable; microbial product**Substance Registration Number(s)[REACH]:** N/A**1.2 Relevant Identified Uses and Uses Advised Against****Identified Uses:** Biological mosquito larvicide**Uses Advised Against:** It is a violation of Federal law to use this product in a manner inconsistent with its FIFRA pesticide labeling.**1.3 Details of the supplier of the Safety Data Sheet****Supplied By:** Valent BioSciences Corporation
870 Technology Way
Libertyville, Illinois 60048**1.4 EMERGENCY TELEPHONE NUMBERS****Emergency Health or Spill:**

Outside the United States: 651-632-6184

Within the United States: 877-315-9819

2. HAZARDS IDENTIFICATION**2.1 Classification of the Substance or Mixture**

Not classified.

2.2 Labeling Elements**Symbol(s)**

None required

Signal Word

WARNING

Hazard Statement(s)

None

VectoPrime® FG Biological Larvicide Fine Granules

SDS# VBC-0054 Revision 1

ISSUED 03/11/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

2.3 Precautionary Statement:

Prevention

Wash hands and face thoroughly after handling.
Avoid breathing dust.

Response

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical attention.

Disposal

Dispose of contents/container in accordance with local/regional/national regulations.

2.4 Other Hazards

None identified.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Component Name	Classification	Percent
None	<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i> , strain AM65-52	Eye Irritation – Cat 2B Skin Sensitizer – Cat 1B	6.07%
65733-16-6	S-Methoprene	Acute Aquatic Toxicity – Cat 1 (Daphnia)	0.10%
Trade Secret	Other ingredients	Not classified	93.83%

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

GENERAL: In all cases of doubt, seek medical attention.

EYES: Remove from source of exposure. Flush with copious amounts of water. Remove contact lenses, if present and easy to do, after the first 5 minutes, then continue rinsing. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic /supportive care as necessary.

SKIN: Remove from source of exposure. Take off contaminated clothing. Flush with copious amounts of water. If irritation occurs or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

INGESTION: Remove from source of exposure. Move person to fresh air. Do NOT induce vomiting. If signs of toxicity occur, seek medical attention. Provide symptomatic /supportive care as necessary.

VectoPrime® FG Biological Larvicide Fine Granules

SDS# VBC-0054 Revision 1

ISSUED 03/11/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

INHALATION: Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary. If person is not breathing, call 911, then give artificial respiration.

4.2 Most important Symptoms and Effects, both Acute and Delayed**Acute**

Possible eye irritation

Delayed

No information on significant adverse effects

4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically and supportively

5. FIRE FIGHTING PROCEDURES**5.1 Extinguisher Media****Suitable Extinguisher Media**

Dry chemical, water spray, foam or carbon dioxide. Use appropriate medium for the underlying cause of the fire.

Unsuitable Extinguisher Media

None known

5.2 Specific Hazards Arising from the Chemical**Thermal decomposition products**

Carbon oxides, nitrogen oxides

5.3 Advice to Firefighters**Protective Equipment and precautions for firefighters**

Fire fighter should wear full-face, self-contained breathing apparatus and impervious protective clothing. Fire fighters should avoid inhaling combustion products. See Section 8 (Exposure Controls / Personal Protection)

Fire & Explosive hazard

Not expected to be flammable.

6. ACCIDENTAL RELEASE MEASURES**6.1 Personal Precautions, Protective Equipment and Emergency Procedures**

Wear a dust/mist filtering respirator, eye protection and impervious gloves.

6.2 Environmental Precautions

Dispose of excess product and washwaters according to local regulations.

VectoPrime® FG Biological Larvicide Fine Granules

SDS# VBC-0054 Revision 1

ISSUED 03/11/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

6.3 Methods and Materials for Containment and Cleaning Up

Wear appropriate personal protective equipment. Sweep up material and place in appropriate container for disposal. Avoid generating dust. Do not flush to sewer.

6.4 Reference to Other Sections

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations. See Section 13 for Disposal Considerations.

US Regulations may require reporting spills of hazardous materials: See Section 15: REGULATORY INFORMATION for details on reportable quantities, if any.

7. HANDLING AND STORAGE**7.1 Precautions for Safe handling**

Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Do not eat, drink or smoke while working with product, obey reasonable safety precautions and practice good housekeeping.

7.2 Conditions for Safe Storage, Including Incompatibilities

Store in a cool, dry place

Incompatibilities

None Known

7.3 Specific End Use(s)

Mosquito larvicide

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control Parameters****Component Exposure Limits**

None

Derived No Effect Levels (DNELs)

No DNELs available

Predicted No Effect Concentrations (PNECs)

No PNECs available

8.2 Exposure Controls**Appropriate Engineering Controls**

Provide general ventilation.

VectoPrime® FG Biological Larvicide Fine Granules

SDS# VBC-0054 Revision 1

ISSUED 03/11/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

SKIN PROTECTION:

Wear protective clothing, including boots and gloves. Wash thoroughly with soap and water after handling.

EYE PROTECTION:

Wear goggles, safety glasses with side shields or full-face shield when splashing or spraying of materials is likely.

RESPIRATORY PROTECTION:

Use dust/mist filtering respirator (MSHA/NIOSH approved number prefix TC-21C or a NIOSH approved respirator with any N, P, R or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Brown granular	Odor:	Very little odor
pH:	5.0 (1% w/v)	Boiling Point:	Not Determined
Melting Point:	Not Applicable	Solubility (H ₂ O):	Not Determined
Specific Gravity:	Not Determined	Bulk Density:	Not Determined
Octanol/H ₂ O Coeff:	Not Determined	Evaporation Rate:	Not Determined
Molecular Weight:	Not Applicable	Decomposition Temp.:	Not Determined
Auto Ignition:	Not Determined	LFL:	Not Determined
Flash Point:	Not Determined	UFL:	Not Determined
Vapor Density:	Not Determined	Vapor Pressure:	Not Applicable
VOC:	Not Determined	Flammability Class:	Not Determined
Kinematic Viscosity:	Not Determined		

10. CHEMICAL STABILITY AND REACTIVITY

10.1 Reactivity

Material does not pose a significant reactivity hazard.

10.2 Chemical Stability

Stable under ordinary conditions of use and storage. Spontaneous reaction not possible.

10.3 Possibility of Hazardous Reactions

Does not undergo hazardous polymerization

10.4 Conditions to Avoid

None known

10.5 Incompatible Materials

None known

10.6 Hazardous Decomposition Products

Carbon oxides and unidentified organic compounds.

VectoPrime® FG Biological Larvicide Fine Granules

SDS# VBC-0054 Revision 1

ISSUED 03/11/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

11. TOXICOLOGICAL INFORMATION**11.1 Information on Toxicological Effects**

LIKELY ROUTES OF EXPOSURE

Eye Contact: Yes

Skin Contact: Yes

Inhalation: No

Ingestion: No

ACUTE EFFECTS Product Toxicology Studies

ORAL TOXICITY: LD₅₀ > 5,000 mg/kg (rat)DERMAL TOXICITY: LD₅₀ > 5,050 mg/kg (rabbit)INHALATION TOXICITY: LC₅₀ > Unable to generate sufficient respirable particles

CORROSIVENESS: Not corrosive.

DERMAL IRRITATION: Not irritating, (Category IV)

OCULAR IRRITATION: Minimally irritating, (Category IV)

DERMAL SENSITIZATION: Not a sensitizer (guinea pig)

MUTAGENICITY INFORMATION: Components of this product are not listed as mutagens.

CARCINOGENICITY INFORMATION: Components of this product are not listed as carcinogenic by NTP, IARC or OSHA.

DEVELOPMENTAL/REPRODUCTIVE TOXICITY: This material is not pathogenic

SPECIAL TARGET ORGAN EFFECTS: Eye and mucus membrane Irritation.

ASPIRATION HAZARD: Not Applicable

REPEAT DOSE STUDIES: Not Applicable, Pathogenicity Toxicity testing was all negative

12. ECOLOGICAL INFORMATION**12.1 Ecotoxicity (Data for a Concentrated Bti Technical Powder)**Fish: LC₅₀ >300 mg/L (96-H, Rainbow Trout)Bird: LC₅₀ >3077 mg /kg (6.2 x 10¹¹ cfu/kg) (Acute Oral - Bobwhite Quail)LC₅₀ >3077 mg /kg (6.2 x 10¹¹ cfu/kg) each day for 5 days (Sub-Acute Oral (dietary) - Bobwhite Quail)Invertebrates: EC₅₀ >50 mg/L (48-H) (Daphnia)**(Data for a Concentrated S-Methoprene Technical Powder)**Fish: LC₅₀ >4.26 mg/L (96-H, Zebra Fish); NOEC: 1.25 mg/LAlgae: EC₅₀ >2.264 mg/L (48-H)Invertebrates: EC₅₀ >0.22 mg/L (48-H) (Daphnia)

VectoPrime® FG Biological Larvicide Fine Granules

SDS# VBC-0054 Revision 1

ISSUED 03/11/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

12.2 Persistence and Degradability

No data available

12.3 Bioaccumulation potential

No data available

12.4 Mobility in Soil

No data available

12.5 Results of PBT and vPvB assessment

Assessments not performed

12.6 Other adverse effects

None known

13. DISPOSAL CONSIDERATIONS**13.1 Waste Disposal Methods**

Dispose of product in accordance with federal, state, provincial, and local regulations. Prevent contamination of environment by wastes.

US EPA WASTE NUMBER & DESCRIPTIONS:

There is no applicable EPA waste number. This product, if discarded, is not expected to be a characteristic or listed hazardous waste.

14. TRANSPORTATION INFORMATION

DOT STATUS: Not regulated for domestic ground transport by US DOT
UN PROPER SHIPPING NAME: N/A
REMARKS: N/A

IATA/ICA0 STATUS: Not Regulated
PROPER SHIPPING NAME: N/A
REMARKS: N/A

IMDG STATUS: Not Regulated
PROPER SHIPPING NAME: N/A
REMARKS: N/A

VectoPrime® FG Biological Larvicide Fine Granules

SDS# VBC-0054 Revision 1

ISSUED 03/11/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

15. REGULATORY INFORMATION**15.1 Safety, Health and Environmental Regulations / Specific Legislation**

TSCA STATUS: Exempt

CERCLA STATUS: Not regulated as hazardous

SARA STATUS: Acute: No Chronic: No Fire: No CDT: No

RCRA STATUS: Not regulated as hazardous

State Right-To-Know: Not Listed

Consult applicable national, state provincial or local laws to determine regulations, laws or ordinances which may be applicable.

OSHA HAZARD COMMUNICATION STANDARD: Not defined by the OSHA Hazard Communication Standard, 29 CFR

15.2 EPA Pesticide Regulations

EPA Registration Number 73049-501

EPA Pesticide Label signal word: CAUTION

Product must have EPA Approved Pesticide Label attached to or accompanying all containers.

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions and limitations for its use.

**PRECAUTIONARY STATEMENTS
HAZARD TO HUMANS AND DOMESTIC ANIMALS****CAUTION**

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Mixers/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

ENVIRONMENTAL HAZARDS

Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

VectoPrime® FG Biological Larvicide Fine Granules**SDS# VBC-0054 Revision 1****ISSUED 03/11/16**

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

For use only by federal, state, tribal or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform mosquito control applications, or by persons under their direct supervision.

IN CALIFORNIA: This product is to be applied by County Health Department, State Department of Health Services, Mosquito and Vector Control or Mosquito Abatement District personnel, or persons under contract to these entities only.

STORAGE AND DISPOSAL

Do not contaminate potable water, food, or feed by storage or disposal.

Storage: Store in cool, dry place.

Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

Container Disposal: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. If burned, stay out of smoke.

16. OTHER INFORMATION**NFPA Hazard Ratings**

Health: 0
Flammability: 0
Instability: 0

HMIS Hazard Ratings

Health: 0
Flammability: 0
Instability: 0

0 = Minimal
1 = Slight
2 = Moderate
3 = Serious
4 = Extreme

REASON FOR ISSUE: Updated hazard statement

APPROVAL DATE: 03/11/16

SUPERSEDES DATE: 05/05/15

LEGEND: N/A = Not Applicable

N/L = Not Listed

C = Ceiling

(R) = Registered Trademark of Valent BioSciences Corp.

(TM) = Registered Trademark of Valent BioSciences Corp.

N/D = Not Determined

L = Listed

S = Short-term

VectoPrime® FG Biological Larvicide Fine Granules**SDS# VBC-0054 Revision 1****ISSUED 03/11/16**

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

The information provided in this Safety Data Sheet (SDS) is provided in good faith and believed to be accurate at the time of preparation of the SDS. However, to the extent consistent with applicable law, Valent BioSciences Corporation and its subsidiaries or affiliates extend no warranties, make no representations, and assume no responsibility as to the accuracy, suitability, or completeness of such information. Additionally, to the extent consistent with applicable law, neither Valent BioSciences Corporation nor any of its subsidiaries or affiliates represents or guarantees that this information or product may be used without infringing the intellectual property rights of others. Except to the extent a particular use and particular information are expressly stated on the product label, it is the users' own responsibility to determine the suitability of this information for their own particular use of this product. If necessary, contact Valent BioSciences Corporation to confirm that you have the most current product label and SDS.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABEL (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use as required by the Occupational Health and Safety Act (29 CFR 1910.1200, "Hazcom"). The product label provides information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products is regulated by the EPA under the authority of FIFRA through the product label. All necessary hazard classification and appropriate precautionary use, storage, and disposal information is set forth on that label or labeling accompanying the pesticide or to which reference is made on the label. It is a violation of federal law to use an EPA-registered pesticide product in any manner inconsistent with its labeling.

Mercer County Mosquito Control

Municipalities are encouraged to share this information with all residents in their community

Merus 3.0

This Fact Sheet answers some basic questions about mosquito control products in use in your county. Mercer County Mosquito Control, along with several other resources (listed at the end of this sheet), can provide more detailed information.

What is Merus 3.0™ adulticide and how is it used?

Merus 3.0™ contains botanical insecticides called pyrethrins, a class of organic compounds extracted from Chrysanthemum flowers. Unlike most pyrethroids (the synthetic equivalent of pyrethrins that are more commercially available), Merus 3.0™ does not contain additional chemical synergists such as piperonyl butoxide. Merus 3.0™ is Organic Materials Review Institute (OMRI) listed and meets National Organic Program (NOP) standards for adult mosquito control in and around organic gardens, farms and crops. It poses a low risk to human health and the environment when used properly as part of an integrated mosquito control program. Pyrethrins are considered non-carcinogenic at exposure relevant to human use, and no data is available to indicate the product or any components present at greater than 0.1% are mutagenic or teratogenic.

Merus 3.0™ is used for the control of adult mosquitoes. While habitat management and measures to control immature mosquitoes in water are preferred and most used, the spraying of adult mosquitoes is necessary when biting populations reach critical levels or when a disease organism is present in adult mosquitoes. A very fine mist is sprayed into the air since flying mosquitoes must directly contact the pesticide in order for it to be effective.

How can I reduce my exposure to Merus 3.0™?

Because of the very small amounts of active ingredients released per acre, the risk to the general public from the use of pyrethrin-containing products is minimal. Avoiding exposure is always the safest course of action. Any possible exposure risk can be reduced by following some common-sense actions:

- Pay attention to notices about spraying found through newspapers, websites, automated telephone messages or distributed by municipal, county or state agencies.
- Plan your activities to limit time spent outside during times of possible pesticide treatments.
- Move your pets, their food, and water dishes inside during ULV application. Also bring clothing and children's toys inside.
- Stay away from application equipment, whether in use or not.
- Whenever possible, remain indoors with windows closed and with window air conditioners on non-vent (closed to the outside air) and window fans turned off during spraying.
- Avoid direct contact with surfaces that are still wet from pesticide spraying. Do not allow children to play in areas that have been sprayed until they have completely dried (approximately one hour).
- If you must remain outdoors, avoid eye and skin contact with the spray. If you get spray in your eyes or on your skin, immediately flush and rinse with water.

What are the symptoms of exposure to Merus 3.0™?

Symptoms of over-exposure to pyrethrins can include irritation to skin and eyes, asthma-like symptoms, nausea, and vomiting. The chance of experiencing these symptoms of over-exposure with proper use is low. You should contact your physician, other medical providers, or the New Jersey Poison Information and Education System (NJPIES) at 1-800-222-1222 if you experience these symptoms following a pesticide spraying.

How long will Merus 3.0™ last in the environment?

In the presence of sunlight, pyrethrin 1 (a component of pyrethrins) has a half-life of 11.8 hours in water and 12.9 hours on soil surfaces. In the absence of light, pyrethrin 1 breaks down more slowly in water. Half-lives of 14 to 17 days have been reported. When water was more acidic, pyrethrin 1 did not readily break down. Pyrethrins that enter the water do not dissolve well but tend to bind to sediment. Half-lives of pyrethrin 1 in sediment are 10.5 to 86 days

Where can I get more information on this adulticide?

The following are resources for more information regarding Etofenprox and mosquito control in your area (unless otherwise noted, available during normal business hours):

- For overall pesticide-specific information – 9:30am to 7:30pm:
National Pesticide Information Center **800-858-7378**

- For pesticide health information & possible exposures – 24 hours:
New Jersey Poison Information & Education System **800-222-1222**

- For New Jersey pesticide regulation & misuse complaints:
NJDEP Bureau of Pesticide Compliance & Enforcement **609-984-6568**

- For Federal pesticide regulation:
USEPA Region 2 Office of Pesticide Programs **877-251-4575**

- For statewide mosquito control information:
NJDEP Office of Mosquito Control Coordination **609-292-3649**

- For local mosquito control information:
Mercer County Mosquito Control **609-530-7501**

- For mosquito control recommendations:
Rutgers University, Department of Entomology **848-932-9774**

PRECAUTIONARY STATEMENTS

CAUTION

Harmful if swallowed. Avoid contact with eyes, skin and clothing. Wear goggles and chemical-resistant gloves. Avoid breathing spray, mists or vapors. Wash hands after using. Avoid contamination of food or food stuffs.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are barrier laminate, nitrile rubber, neoprene rubber, and Viton. If you want more options, follow the instructions for category E on an EPA chemical-resistance selection chart.

Mixers, loaders, applicators, flaggers, and other handlers must wear:

- Long-sleeved shirt and long pants,
- Shoes plus socks, and
- Chemical-resistant gloves.

Follow manufacturer’s instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with the product’s concentrate. Do not reuse them.

ENGINEERING CONTROLS

Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)].

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE if pesticide gets inside. Then, wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash outside of gloves before removing them. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, except as directed for use on this label. Aquatic organisms may be killed in waters where this product is used. Consult the State agency, with primary responsibility for regulating pesticides, before applying to public waters to determine if a permit is needed. Do not contaminate water when disposing of equipment washwater or rinsate. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

PHYSICAL AND CHEMICAL HAZARDS

Do NOT store, use, pour or spill near flames or excessive heat. In case of fire, use water spray, foam, CO₂, or dry chemical.

TERMS

To the extent consistent with applicable laws, the seller’s guarantee is limited to the terms on the label. The buyer accepts the product on these conditions. Timing and method of applications, crop conditions, weather, and mixtures with chemicals in the use of this product are beyond the control of the seller.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Store in a cool, dry, locked area out of the reach of children. Do not store near excessive heat or open flame.

PESTICIDE DISPOSAL: Pesticide or pesticide waste rinse solution that cannot be used according to the label, must be disposed of according to applicable Federal, State, or local procedures or at an approved waste disposal facility.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into the mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into the mix tank or store rinsate for later disposal. Repeat this procedure two more times. Then offer for recycling, if available. If recycling is not available, puncture container and dispose of it in a sanitary landfill or by other approved State and local procedures.

BVA 2 MOSQUITO LARVICIDE OIL

ACTIVE INGREDIENT: % BY WT.

Mineral Oil*.....	97%
Other Ingredients.....	3%
Total.....	100%

*Contains petroleum distillate

KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID	
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes	<ul style="list-style-type: none"> • Call a poison control center or doctor for treatment advice. • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
If swallowed	<ul style="list-style-type: none"> • Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person.
Have the product container or label with you when calling a poison control center, or doctor, or going for treatment. You may also contact CHEMTREC 1.800.424.9300 for emergency medical treatment information.	
NOTE TO PHYSICIAN: This product contains petroleum distillate and may pose an aspiration pneumonia hazard.	

See left side panel for additional precautionary statements

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact adults, children, or pets, either directly or through drift. Do not allow adults, children, or pets to enter treated areas until sprays have dried.

BVA 2 Mosquito Larvicide may be used to control mosquito larvae in swamps, marshes, floodwater areas, drainage areas, storm sewer catch basins, waste treatment facilities, settling ponds, ditches, temporary rain pools and other man-made depressions containing stagnant water pools, including, abandoned swimming pools, fountains and ponds.

Apply **BVA 2 Mosquito Larvicide** at rates of 1-5 gallons per acre depending on how dense the vegetation and weeds may be. This product may be applied by the following methods: handgun or handwand sprayer and by air.

BVA 2 Mosquito Larvicide has a water-white clear color and is practically odorless.

DIRECTIONS FOR USE (continued)

BVA 2 Mosquito Larvicide does not depend on life-cycle time for effectiveness. As it kills by suffocation, mosquitoes do not develop resistance. When applied as directed this product does not leave a dark oily film.

SPRAY DRIFT MANAGEMENT

A variety of factors (e.g., wind direction, wind speed, temperature, and relative humidity) and method of application (e.g., handgun, handwand, ground or aerial) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

Wind Speed: Do not apply at wind speeds greater than 15 mph at the application site.

Temperature Inversions: If applying at wind speeds less than 3 mph, the applicator must determine if:

- a) conditions of temperature inversion exist, or
- b) stable atmospheric conditions exist at or below nozzle height.

Do not make applications into areas of temperature inversions or stable atmospheric conditions.

Droplet Size: Apply as a medium or coarser spray (ASABE standard 572), and the minimum volume mean diameter (VMD) for spinning atomizer nozzles.

Ground Spray (Handgun or Handwand) Applications

Ground applications must be in compliance with the specifications indicated above regarding **Wind Speed, Temperature Inversions, and Droplet Size**. Apply using a nozzle height of no more than 4 feet above the ground, water surface, or crop canopy.

Aerial Applications

Aerial applications must be in compliance with the specifications indicated above regarding **Wind Speed, Temperature Inversions, and Droplet Size**.

Release Height: Do not release spray at a height greater than 10 feet above the ground, water surface, or the tops of plants that are to be sprayed.

Boom Length: The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.

Swath Adjustment: When applications are made with a cross-wind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind. Leave at least one untreated swath at the downwind edge of the treated field.

TREATMENT RATES

Apply this product at rates of 1 to 5 gallons per acre (3 to 15 fl. oz. per 1000 sq. ft.) depending on water surface conditions and vegetative density. Use 1 to 2½ gallons per acre (3 to 7½ fl. oz. per 1000 sq. ft.) if trees are in green tip stage, vegetative cover is light and water is essentially clean.

To penetrate heavier or denser vegetative cover, or if water is substantially polluted, use 2½ to 5 gallons per acre (7½ to 15 fl. oz. per 1000 sq. ft.).

An average rate of 2½ to 3 gallons per acre (approximately 1 quart per 5000 sq. ft. (50'x100' area)), 7½ to 9 fl. oz. per 1000 sq. ft. or 2-4 teaspoons per 100 sq. ft. (10'x10' area) of water surface covers most conditions.

BVA Oils (a division of B-V Associates, Inc.)

29222 Trident Industrial Blvd.
New Hudson, MI 48165
800.231.3376
www.bva oils.com
REV042913



SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION	
PRODUCT	
Product Name:	BVA 2 Mosquito Larvicide Oil
Product Description:	Mixture Highly Refined Mineral Oil Base Stock (oil) with Additives.
Intended Use:	Larvicide Oil
COMPANY IDENTIFICATION	
Supplier	BVA Inc. 29222 Trident Industrial Blvd. New Hudson, MI 48165 USA +1-248-348-4920
Emergency telephone numbers	USA – Chemtrec: 800-424-9300 All Others – Chemtrec: +1-703-527-3887

SECTION 2: HAZARDS IDENTIFICATION	
Please see Section 3 and 15 for country specific classification information, and Section 11 for additional details.	
HEALTH HAZARDS	
Aspiration toxicant: Category 1. Acute inhalation toxicant: Category 4.	
Signal Word: Danger	
GHS Symbol:	
Health Hazards: May be fatal if swallowed and enters airways. Harmful if inhaled.	
Precautionary Hazard - Response: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician Do NOT induce vomiting.	
Precautionary Hazard - Storage: Store locked up.	
Precautionary Hazard - Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations.	
Other	
EU Classification:	
Signal Word: Danger	
Risk Phrases: R20: Harmful by inhalation. R65: Harmful: may cause lung damage if swallowed.	
Safety Phrases: S2: Keep out of the reach of children. S62: If swallowed do not induce vomiting: seek medical advice immediately and show this container or label.	
<i>This information is based on test data from similar products.</i> This product is not formulated to contain ingredients which have exposure limits established by regulatory agencies. It is not hazardous to health as defined by the European Union Dangerous Substances / Preparations Directives. Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.	
Note : <i>This information is based on test data from similar products.</i> This product is not formulated to contain ingredients which have exposure limits established by regulatory agencies. It is not hazardous to health as defined by the European Union Dangerous Substances/Preparations Directives. Low order of toxicity.	

Product Name: BVA 2 Mosquito Larvicide Oil

Revision Date: 7 February 2015

Page 2 of 8

GHS and other international



Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

Chemical Name: Mixture	CAS #	Percent (% wt)
The base oil may be a mixture of the Following: 1) Hydrotreated Distillate, Heavy Paraffin 2) Hydrotreated Distillate, Light Paraffin 3) Hydrotreated Neutral Oil 4) White Mineral Oil	The base oil may be a mixture of the Following CAS#s: 64742-54-7, 64742-55-8 72623-87-1 8042-47-5	>95%
Proprietary additives		<5%
None		

SECTION 4 : FIRST AID MEASURES

Inhalation:	Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.
Skin:	Wash with soap and water. Remove and launder contaminated clothing before reuse. If irritation develops get medical attention.
Eye :	Flush thoroughly with water. If irritation occurs, get medical assistance.
Ingestion:	First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 : FIRE FIGHTING PROCEDURES

EXTINGUISHING MEDIA	Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames. Inappropriate Extinguishing Media: Straight streams of water	
FIRE FIGHTING	Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel. Hazardous Combustion Products: Smoke, Fume, Carbon Monoxide, Aldehydes,	
FLAMMABILITY PROPERTIES	Flash Point ASTM D92 (open cup typical) Larv 2 180 (356)	Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D Autoignition Temperature: N/D

SECTION 6 : SPILL OR LEAK HANDLING PROCEDURES

SPILL MANAGEMENT	Land Spill: Stop leak if you can do so without risk. Recover by pumping or with suitable absorbent. Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants. Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.
ENVIRONMENTAL PRECAUTIONS	Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

Product Name: BVA 2 Mosquito Larvicide Oil

Revision Date: 7 February 2015

Page 3 of 8

GHS and other international



SECTION 7 : HANDLING AND STORAGE	
HANDLING	Prevent small spills and leakage to avoid slip hazard. Static Accumulator: This material is a static accumulator.
STORAGE	Do not store in open or unlabeled containers.

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION	
Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m ³ - ACGIH TLV, 10 mg/m ³ - ACGIH STEL.	
Note: Information about recommended monitoring procedures can be obtained from the relevant agency(ies)/institute(s)	
ENGINEERING CONTROLS	The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider: No special requirements under ordinary conditions of use and with adequate ventilation
PERSONAL PROTECTION	Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.
Respiratory Protection:	Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include: No special requirements under ordinary conditions of use and with adequate ventilation. For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.
Hand Protection:	Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include: No protection is ordinarily required under normal conditions of use.
Eye Protection:	If contact is likely, safety glasses with side shields are recommended.
Skin and Body Protection:	Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include: No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.
Specific Hygiene Measures	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.
ENVIRONMENTAL CONTROLS	See Sections 6, 7, 12, 13.

SECTION 9 : PHYSICAL & CHEMICAL PROPERTIES	
Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.	
General Information	HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Physical State	Liquid
Density at 20°C	0.856 - 0.862
Flash Point typical °C (°F)	>160 (320) See Section 5
Flammable Limits	LEL: N/D UEL: N/D
Autoignition Temperature:	ND
Boiling Point °C (°F)	>200°C
Vapor Density (Air=1)	NA
OTHER INFORMATION	

Product Name: BVA 2 Mosquito Larvicide Oil

Revision Date: 7 February 2015

Page 4 of 8

GHS and other international



Pour Point °C (°F)	-40 (-40) or below	Vapor Pressure	< 0.013 kPa (0.1 mm Hg) at 20°C
Freezing Point	ND	Evaporation Rate (N-Butyl Acetate = 1):	ND
Viscosity are +/- 10%		Solubility in Water	Nil
Viscosity	cSt at 40°C	Oxidizing Properties	See Sections 3, 15, 16.
Larv 2	10 - 13		

SECTION 10 : STABILITY & REACTIVITY	
STABILITY:	Material is stable under normal conditions.
CONDITIONS TO AVOID:	Excessive heat. High energy sources of ignition.
MATERIALS TO AVOID:	Strong oxidizers
HAZARDOUS DECOMPOSITION PRODUCTS:	Material does not decompose at ambient temperatures.
HAZARDOUS POLYMERIZATION:	Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION	
ACUTE TOXICITY	
Potential acute health effects	
Inhalation : No known significant effects or critical hazards.	
Ingestion : No known significant effects or critical hazards.	
Skin contact : No known significant effects or critical hazards.	
Eye contact : No known significant effects or critical hazards.	
PRODUCT	
Route of Exposure	Conclusion / Remarks
INHALATION	
Toxicity: LC50 > 5000 mg/m3	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
INGESTION	
Toxicity: LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity: LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
Eye	
Irritation: Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

CHRONIC/OTHER EFFECTS
For the product itself:
Repeated and/or prolonged exposure may cause irritation to the skin, eyes, or respiratory tract.
Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.
CARCINOGENIC EFFECTS:
Contains no carcinogens. Similar compounds essentially non-toxic. No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH or the International Agency for Research on Cancer (IARC). No component of this product present at levels greater than 0.1% is identified as a carcinogen by the U.S. National Toxicology Program (NTP) or the U.S.

Product Name: BVA 2 Mosquito Larvicide Oil

Revision Date: 7 February 2015

Page 5 of 8

GHS and other international



Occupational Safety and Health Act (OSHA), NTP or IARC.

Although there is no specific test data on all the base oil components, the mineral base oil would not be expected to exhibit carcinogenic potential based on what is known of the toxicity of mineral base oils in general.

The DMSO extract by IP 346 of the oil is less than 3%. (Typical 0.2% with Maximum 0.5%) Consequently it is not classified as a carcinogen.

The base oil in this product is severely hydro-treated by all hydro-processing route. By this refining history would be showed no evidence of carcinogenic potential.

MUTAGENIC EFFECTS: No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a mutagen.

TERATOGENIC EFFECTS/DEVELOPMENTAL TOXICITY: No component of this product at levels greater than 0.1% is classified by established regulatory criteria as teratogenic or embryotoxic.

REPRODUCTION TOXICITY: No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a reproductive toxin.

Additional information is available by request.

OVER – EXPOSURE SIGNS/SYMPTOMS

Skin	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.
Inhalation	No known significant effects or critical hazards.

SECTION 12 : ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land.
Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

ECOLOGICAL DATA

Data for Highly Refined Severely Hydrotreated Base oil for similar materials

TEST	Duration	Organism Type	Test Results
Aquatic - Chronic Toxicity	21 day(s)	Water Flea	NOELR 1.05 mg/l: data for similar materials
	7 days	Fish	NOEC: > 5000mg/L (IUCLID Dataset)
	7 days	Aquatic Invertebrates,	NOEC: > 5000mg/L (IUCLID Dataset)

Care should be taken to minimize release of this product into the environment

Product Name: BVA 2 Mosquito Larvicide Oil

Revision Date: 7 February 2015

Page 6 of 8

GHS and other international



Environmental Fate & Distribution	No Data Available	Other Typical (not a specification)
Persistence & Degradation Toxicity	No Data Available	Acute Toxicity to Fish: No Data Available
Effect on Effluent Treatment	Product may be partially removed in biological treatment processes.	Effect Concentration on Algae: No Data Available
		Ready Biodegradability: No Data Available
		Respiration Inhibition: No Data Available
		Adsorption/Desorption: No Data Available
		Abiotic Degradability-Hydrolysis : Not measurable

SECTION 13 : DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

European Waste Code: 13 01 10

NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).

This material is considered as hazardous waste pursuant to Directive 91/689/EEC on hazardous waste, and subject to the provisions of that Directive unless Article 1(5) of that Directive applies.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 : TRANSPORT INFORMATION

LAND (ADR/RID) : Not Regulated for Land Transport

INLAND WATERWAYS (ADNR) : Not Regulated for Inland Waterways Transport

SEA (IMDG) : Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA) : Not Regulated for Air Transport

US DOT Classification: Not Regulated Marine Pollutant: Not a Pollutant Special Provisions for transport: None Identified	ICAO/IATA Classification Proper shipping name: Not regulated IATA Class UN number: Not regulated. Packing Group: Not regulated.
ADR/RID Classification UN number: Not regulated. Proper shipping name: Not regulated. ADR/RID Class: Not regulated. Packing Group: Not regulated.	IMO/IMDG Classification Proper shipping name: Not regulated IMDG Class: Not regulated UN number: Not regulated. Packing Group: Not regulated. Marine Pollutant: Not pollutant.

USA: No special warning labels are required under OSHA 29CFR 1910.1200. OSHA hazard warnings are not applicable for this product; therefore no OSHA Warnings would appear on the label. No EPA hazard classification code.

SECTION 15: Regulatory Information Product Component Ingredients

Europe

Material is not dangerous as defined by the EU Dangerous Substances/Preparations Directives.



EU LABELING: Not regulated according to EC Directives Material is not dangerous as defined by the EU Dangerous Substances/Preparations Directives.

Classification and labeling have been performed according to EU Directives 67/548/EEC, 1999/45/EC and 2001/58/EC (including amendments) and the intended use.
 - Consumer applications.

United States

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances: None.
 Section 304 CERCLA Hazardous Substances: None.
 SARA 311/312 CATEGORIES:

1. Immediate (Acute) Health Effects: YES
2. Delayed (Chronic) Health Effects: NO
3. Fire Hazard: NO
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

Canada

WHMIS (Canadian Workplace Hazardous Materials Information System)

This product when tested as a whole is not a controlled substance within the meaning of the Hazardous Products Act.

Germany: Water Hazardous Class (WGK): 1 (low hazard to water)

NATIONAL LEGISLATION / REGULATIONS

Ozone depleting chemicals: No ozone depleting chemicals are present or used in manufacture.

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Complies with the following national/regional chemical inventory requirements: , DSL, ENCS, TSCA
 Special:

Inventory	Status
AICS	All components are listed or exempted.
ELINCS	Restrictions Apply
IECSC	All components are listed or exempted.
KECI	All components are listed or exempted.
PICCS	All components are listed or exempted.

Detail U.S. Regulations	US INVENTORY (TSCA 8b): Listed on inventory. SARA Title III Section 302 Extremely Hazardous Substances (40 CFR Part 355):: This product is not regulated under Section 302 of SARA and 40 CFR Part 355. SARA Title III Sections 311/312 Hazardous Categorization (40 CFR Part 370):: Defined as Immediate (Acute) Health Effects by OSHA under 29 CFR 1910.1200(d). SARA 313 toxic chemical notification and release reporting: No products were found. CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):: This material is not regulated under CERCLA Sections 103 and 107.
State Regulations	No products were found. California prop. 65: No products were found

SECTION 16: OTHER INFORMATION

This product safety data sheet was prepared in compliance Conforms to HazCom 2012/United States. Certain elements refer to Commission Directive 2001/58/EC , 91/155/EEC, 67/548/EEC and 1999/45/EC for reference, as well as their relevant amendments, on the approximation of laws, regulations and administrative provisions relative to the classification, packaging and labeling of dangerous substances and preparations.

Product Name: BVA 2 Mosquito Larvicide Oil

Revision Date: 7 February 2015

Page 8 of 8

GHS and other international



History

17 September 2011 – minor organization update toward GHS format

21 –March 2014 - moved NFPA and HMIS to section 16 for GHS update in format

Date of issue: 7- March 2015

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

UN = United Nations

N/D = Not determined, N/A = Not applicable

KEY TO THE RISK CODES CONTAINED IN SECTION 2 AND 3 OF THIS DOCUMENT (for information only):

EU

Risk Phrases:

R20: Harmful by inhalation.

R65: Harmful: may cause lung damage if swallowed.

Safety Phrases:

S2: Keep out of the reach of children.

S62: If swallowed do not induce vomiting: seek medical advice immediately and show this container or label.

U.S.A. Hazardous Material Information System and National Fire Protection Association (U.S.A.)

Degree of Hazard	NFPA		HMIS		HAZARD RATINGS
Health	1		1	0	Insignificant
Fire	1		1	1	Slight
Reactivity	0		0	2	Moderate
Personal Protection			B	3	High

The information and recommendations contained herein are, to the best of our knowledge and belief, accurate and reliable as of the date issued. You can contact us to insure that this document is the most current available. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted.



COCOBEAR™ Mosquito Larvicide Oil

Kills larvae and pupa stages of mosquitoes. Physical control of mosquito broods: kills by suffocation - mosquitoes do not develop resistance. Prevents mosquito emergence.

Standing water treatment. Use on: ponds, pools, ditches, standing water within irrigated croplands and pastures, flood waters, and other listed areas where mosquitoes develop.

ACTIVE INGREDIENT

Mineral Oil*	10.0%
OTHER INGREDIENTS	90.0%
TOTAL	100.0%

* Contains petroleum distillate

KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-214-7753 for emergency medical treatment information.

IF SWALLOWED:	Call a poison control center or doctor immediately for treatment advice. DO NOT induce vomiting unless told to do so by a poison control center or doctor. Do not give ANY liquid to the person. Do not give anything by mouth to an unconscious person.
----------------------	--

NOTICE TO PHYSICIANS: This product contains petroleum distillate and may pose an aspiration pneumonia hazard.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS & DOMESTIC ANIMALS

CAUTION. Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Personal Protective Equipment (PPE): Mixers, loaders, applicators, and other handlers must wear long-sleeved shirt and long pants, and shoes plus socks.

User Safety Requirements: Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

User Safety Recommendations: Users should wash hands before eating, drinking, chewing gum, tobacco, or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, except as directed for use on this label. Aquatic organisms may be killed in waters where this pesticide is used. Consult with the State or tribal agency with primary authority for regulating pesticides before applying this product to public waters to determine if a permit is needed.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

This product may cause injury to plants in the treatment area. Stressed plants may be more susceptible.

COCOBEAR may only be used to control mosquito larvae and pupae. COCOBEAR leaves a thin film on the surface of treated, non-flowing water and kills mosquito larvae and pupae by suffocation. COCOBEAR kills immature mosquitoes where they develop.

This product may be used for surface applications to standing water within irrigated croplands and pastures, drainage areas, ditches, stagnant pools, swamps, marshes, temporary rain pools, sloughs, log ponds, open sewage basins, settling ponds, catch basins, waste tires and intermittently flooded areas.

Apply at uniform rates of 3 gallons per surface acre (for smaller areas, treat at 10 ounces per 1,000 sq. ft. or 1 1/2 quart per 5,000 sq. ft.). Where there is extremely dense vegetation or if the water to be treated is high in organic content, up to 5 gallons per acre (15 ounces per 1,000 sq. ft. or 2 quarts per 5,000 sq. ft.) may be used.

When applying by aerial application, adjust spray volume up to 5 gallons per acre dependent on vegetation and surface conditions. 3 gallons per acre (36 gallons per 100 ft swath mile) is likely to be sufficient for most conditions.

Spray Drift Management

A variety of factors including weather conditions (e.g. wind direction, wind speed, temperature, and relative humidity) and method of application (e.g. ground, aerial) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

Wind Speed: Do not apply this product at wind speeds greater than 15 mph at the application site.

Droplet Size: Apply as a medium or coarser spray (ASABE Standard

572), and the minimum mean volume diameter (VMD) for spinning atomizer nozzles.

Temperature Inversions: Application is allowed under stable and/or temperature inversion conditions as long as application is done below the point in the atmosphere where the inversion begins and the droplet size meets the dimensions of very coarse or extremely coarse as defined in ASABE Standard 572 (VMD of 400-500 microns).

Release Height for Ground Applications: Apply using a nozzle height of no more than 4 feet above the surface.

Aerial Applications: Applications must conform to the requirements indicated above regarding wind speed, droplet size, and

temperature inversions and to the additional requirements listed below.

Release Height: Aircraft altitude should be maintained at the lowest altitude necessary for aircraft safety in order to reduce the exposure of droplets to evaporation and wind.

Boom Length: The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter. Nozzle placement may be extended to 100% of rotor blade diameter when very coarse droplets of VMD 400-500 microns (ASABE Standard 572) are used. Orient nozzles to spray backward and parallel to the air stream.

Swath Adjustment: When applications are made with a cross-wind, the swath will be displaced downwind. The applicator must compensate for this displacement at the upwind and downwind edges of the application area by adjusting the path of the aircraft upwind.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage and disposal.

PESTICIDE STORAGE: Store upright at room temperature. In case of spill or leakage, soak up with absorbent material such as sand, sawdust, earth, fuller's earth, etc.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL:

(REFILLABLE DRUMS & TOTES): Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning the container before refilling is the responsibility of the refiller. To clean the container before disposal, drain the container until it is empty. Add a minimum amount of clean water to allow recirculation through the pump, meter and hoses. A commercial tank-cleaning detergent may be used, if desired. Thoroughly drench the interior sides, ceiling, and floor of the container. Using a steam-cleaning process or a high-pressure/low-water process, clean sides, ceiling, and floor of container. Recirculate wash water through the pump, meter and hoses. Drain the tank. Dispose of wash water or rinsate with pesticide waste. Offer cleaned container for recycling, if available, or puncture and dispose of it in a sanitary landfill, or by other procedures approved by State and local authorities.

(2.5 GALLON JUGS): Nonrefillable container. Do not reuse or refill this container. When container is empty, drain it completely, then puncture and dispose of it in a sanitary landfill or by other procedures approved by State and local authorities.

MANUFACTURED FOR:
CLARKE MOSQUITO CONTROL PRODUCTS, INC.
159 N. GARDEN AVENUE
ROSELLE, ILLINOIS 60172
For more information call: 1-800-323-5727

EPA REG. NO. 8329-93

Available Packaging: 2.5 GAL, 30 GAL, 55 GAL, 275 GAL, BULK

EPA EST. NO. _____

LOT NO: Marked on Container Label

COCOBEAR™ is a trademark of Clarke Mosquito Control Products, Inc.

NOTICE: To the extent consistent with applicable law, Clarke Mosquito Control Products, Inc. makes no warranty, express or implied, concerning the use of this product other than as indicated on the label. To the extent consistent with applicable law, buyer assumes all risk of use/handling of this material when use and/or handling is contrary to label instructions.



SAFETY DATA SHEET

COCOBEAR®

Effective Date: 4 June 2018

v.02

Page 1 of 7

SECTION 1. Identification of the Substance/Mixture and of the Company

1.1 Product Identifier

Formulation Identifier: COCOBEAR®

EPA Registration Number: 8329-93

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Relevant identified uses: Insecticide for control of mosquito larvae and pupae

Uses advised against: See product label for use restrictions

1.3 Details of the Supplier of the Safety Data Sheet

Clarke Mosquito Control Products, Inc.
675 Sidwell Court
St. Charles, IL 60174 U.S.A.
+1 (630) 894-2000
Email: Clarke@clarke.com

1.4 Emergency Telephone Number

24-Hour Medical Emergency: POISON CONTROL Toll-free (800) 214 – 7753

24-Hour Transportation Emergency: INFOTRAC (800) 535-5053

SECTION 2. Hazards identification

United States (US)
According to OSHA 29 CFR 1910.1200 HCS (2012)

2.1 Classification of the Substance or Mixture

Aspiration Hazard: Category 1

Acute Toxicity (Inhalation): Category 4

Pictogram:



Signal Word: Danger

Hazard Statements: May be fatal if swallowed and enters airways.
Harmful if inhaled

Precautionary Statements:

PREVENTION: Avoid breathing spray. Use only outdoors or in a well-ventilated area,

RESPONSE: If swallowed: Immediately call a poison control center or doctor. NOT induce vomiting.

If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell.



SAFETY DATA SHEET

COCOBEAR®

Effective Date: 4 June 2018

v.02

Page 2 of 7

STORAGE: Store locked up. Store in a well-ventilated place. Keep container tightly closed.

DISPOSAL: Dispose of contents and container in accordance with local/regional/national regulations.

2.2 Other Hazards Not Classifiable Under OSHA 2012 HCS

See product label for any additional hazards

SECTION 3. Composition/Information on Ingredients

3.1 Components

Substance Name	CAS No.	Concentration % w/w
Mineral Oil	8042-47-5	10.00

Ingredients not identified are non-hazardous and/or are not required to be disclosed pursuant to 29 CFR 1910.1200 (2012), and are withheld as trade secret.

SECTION 4. First Aid Measures

4.1 Description of First Aid Measures

If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

If swallowed: Call a poison control center or doctor immediately for treatment advice. DO NOT induce vomiting unless told to do so by a poison control center or doctor. Do not give ANY liquid to the person. Do not give anything by mouth to an unconscious person.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed.

Inhalation: Inhalation of vapors or mists may be irritating to the respiratory tract

Ingestion: Harmful if swallowed. Aspiration pneumonia hazard. Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea

4.3 Indication of Immediate Medical Attention and Special Treatment

Treatment: Contains petroleum distillate. Gastric lavage is indicated if material was taken internally. May pose an aspiration pneumonia hazard. Appropriate supportive and symptomatic treatment is indicated by the patient's condition is recommended. For medical treatment information, contact the poison control hotline at 1-800-214-7753. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

SECTION 5. Fire-Fighting Measures

5.1 Extinguishing Media

Suitable Extinguishing Media: Carbon Dioxide (CO₂), Dry Chemical, Foam

Unsuitable Extinguishing Media: Water jet

5.2 Special Hazards Arising From the Substance or Mixture

Specific Hazards: Under fire conditions some components may decompose. Combustion products may include CO and NO_x.

5.3 Special Protective Equipment and Precautions for Fire-Fighters

Protection Against Fire: Wear positive pressure, self-contained breathing apparatus and protective firefighting clothing (includes fire-fighting helmet, coat, pants, boots, and gloves).



SAFETY DATA SHEET

COCOBEAR®

Effective Date: 4 June 2018

v.02

Page 3 of 7

Special Procedures: Treat as oil fire. Move container from fire area if it can be done without risk. Do not scatter spilled material with high-pressure water streams. Dike for later disposal. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

SECTION 6. Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

General Precautions: Use appropriate protection (see section 8)

Environmental Precautions: Prevent product from entering into drains and waterways. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Collect and dispose of this material and its container in accordance with national and regional regulations. If the product has contaminated surface water, inform the appropriate authorities. See Section 12 for additional ecological information.

6.2 Methods and Material for Containment and Cleaning Up

Clean Up Methods: Soak up with absorbent, non-combustible material, such as sand, silica gel, clay, or sawdust, while using appropriate personal protection equipment. Collect material in appropriate container for disposal.

SECTION 7. Handling and Storage

7.1 Precautions for Safe Handling

Handling: Keep out of reach of children. Do not take internally. Avoid contact with skin and eyes. Avoid inhalation of vapors from product. Do not take internally.

Ensure that all equipment and tanks are cleaned from previous uses and dry before loading product. Do not mix product with water.

Hygiene Measures: Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove soiled clothing immediately and clean thoroughly before using again.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

Storage: Store in a cool, well-ventilated place, preferably in the original container. Do not allow to come in contact with water during storage. If original container is not available or storing in a stationary bulk container or application equipment/tank, ensure storage container is clean, dry, sealed and free from leaks to prevent water from contacting the product. Do not mix with any other liquids or insecticidal products. Protect from excessive heat and cold. Do not store near food, drink, animal feeding stuffs, pharmaceuticals, cosmetics or fertilizers. Keep out of reach of children. Product should be stored in compliance with local regulations.

Incompatibilities: Water, Moisture

SECTION 8. Exposure Controls / Personal Protection

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

8.1 Control Parameters



SAFETY DATA SHEET

COCOBEAR®

Effective Date: 4 June 2018

v.02

Page 4 of 7

Component Name	CAS No.	List/Source	Type	Value
Mineral Oil	8042-47-5	ACGIH	TLV	5 mg/m ³ inhalable fraction
		NIOSH	REL	5 mg/m ³ form: mist
		OSHA	PEL	5 mg/m ³

8.2 Exposure controls

Engineering Controls: Use with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Wash hands thoroughly after handling. Wash clothing before re-using.

Individual Protection Measures, such as Personal Protection Equipment:

Eye Protection: Safety Glasses, Goggles or Face Shield

Skin Protection: Wear suitable protective clothing including long-sleeve shirt, long pants, shoes and socks.

Hand Protection: It is good industrial hygiene practice to minimize skin contact. If required or preferred, use suitable protective chemical resistant gloves such nitrile. Avoid natural or neoprene rubber. Promptly clean reusable gloves, if worn, and inspect for signs of damage, swelling, cracking, or brittleness. Replace damaged PPE immediately.

Respiratory Protection: None required under normal use of the product.

SECTION 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Appearance:	Liquid
Color:	Clear
Odor:	Detergent
Odor Threshold:	Not Available
pH:	Not Determined
Melting Point:	Not Applicable
Freezing Point:	Not Determined
Initial Boiling Point:	Not Determined
Flash Point:	> 95° C
Evaporation Rate:	Not Determined
Flammability:	Not Determined
Explosion limits [U/L]:	Not Applicable
Vapor Pressure:	Not Determined
Vapor Density:	Not Determined
Relative Density:	7.24 lbs/gal
Solubility:	Not Determined
Partition Coefficient:	Not Determined
Auto-Ignition Temperature:	Not Determined
Viscosity:	2.9 cps @ 40°C
Decomposition Temperature:	Not Available
Explosive Properties:	Not Available
Oxidizing Properties:	Not Available



SAFETY DATA SHEET

COCOBEAR®

Effective Date: 4 June 2018

v.02

Page 5 of 7

SECTION 10. Stability and Reactivity

10.1 Reactivity

Not Available

10.2 Chemical Stability

Stable under normal conditions

10.3 Possibility of Hazardous Reactions

Hazardous Reactions: None under normal conditions

Hazardous Polymerization: Not known to occur

10.4 Conditions to avoid

Protect from direct sunlight, extreme heat, sparks, open flame.

10.5 Incompatible materials

Avoid contact with strong oxidizing agents, strong acids, strong bases

10.6 Hazardous decomposition products

None known under normal conditions of storage and use

SECTION 11. Toxicological information

11.1 Information on Likely Routes of Exposure

Inhalation: May be harmful if inhaled

Ingestion: May be harmful if ingested.

May be fatal if swallowed and enters airways due to petroleum distillate. Vomiting may cause aspiration pneumonia.

11.2 Information on Toxicological Effects

Acute Toxicity/Effects

Oral, Rat LD₅₀ > 5,000 mg/kg-bw

Dermal, Rat LD₅₀ > 5,050 mg/kg-bw

Inhalation, Rat LC₅₀ > 2.16 mg/L

Skin Corrosion/Irritation: Not corrosive or irritating to the skin on acute exposure. Mild skin irritation or cracking may occur from prolonged or repeated exposure to this product.

Serious Eye Damage/Irritation: Not an eye irritant

Skin Sensitization: Not a skin sensitizer

STOT – Single exposure No data is available to indicate product or any components present at greater than 0.1% present a specific target organ toxicity hazard from single exposure.

Chronic Toxicity/Effects

Germ Cell Mutagenicity This product has not been tested. No data is available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.



SAFETY DATA SHEET

COCOBEAR®

Effective Date: 4 June 2018

v.02

Page 6 of 7

Carcinogenicity	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP. Highly-refined oils, such as Mineral Oil, are classified by IARC as Group 3 – Not classifiable as to its carcinogenicity to humans.
Reproductive Effects:	No data is available to indicate product or any components present at greater than 0.1% cause reproductive or teratogenic toxicity.
STOT – Repeated exposure	No data is available to indicate product or any components present at greater than 0.1% present a specific target organ toxicity hazard from repeat exposure.

SECTION 12. Ecological Information

12.1 Ecotoxicity

Product specific data is not available. Data referenced is in relation to the active ingredient, Mineral Oil

Toxicity to Fish:	No lethality in fish is observed in multiple studies of the aliphatic oils (mineral oil). The 96-hour LC50 of the fatty acid component to Bluegill is > 1000 mg/l.
Toxicity to Aquatic Invertebrates:	NOEC < 0.9 mg/l based on immobility, Water flea (<i>Daphnia magna</i>) LC50 >100 mg/l, Water flea (<i>Daphnia magna</i>)
Toxicity to Birds:	No lethality is observed in acute, oral, single-dose or sub-chronic dietary feeding tests in avian species. Acute oral toxicity in birds is > 2250 mg/kg-bw; Acute dietary toxicity is > 5620 ppm.

SECTION 13. Disposal Considerations

13.1 Waste Treatment and Disposal methods

Pesticide wastes are regulated. Consult product label for chemical substance and container disposal instructions. Avoid release to the environment. Improper disposal of excess product or rinsate is a violation of Federal law. If these wastes cannot be disposed or by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA regional office for guidance.

Container disposal: Rinse thoroughly in accordance with label instructions.

SECTION 14. Transport Information

- 14.1 **DOT (US)**
Not regulated (Bulk and Non-Bulk Quantities)
- 14.2 **IMDG (Vessel)**
Not regulated
- 14.3 **ICAO/IATA (Air transport)**
Not Regulated

SECTION 15. Regulatory Information

FIFRA Information: This chemical is a pesticide product regulated by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information for safety data sheet, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:



SAFETY DATA SHEET

COCOBEAR®

Effective Date: 4 June 2018

v.02

Page 7 of 7

Signal Word: CAUTION
KEEP OUT OF REACH OF CHILDREN

FIRST AID

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-214-7753 for emergency medical treatment information.

IF SWALLOWED:	Call a poison control center or doctor immediately for treatment advice. DO NOT induce vomiting unless told to do so by a poison control center or doctor. Do not give ANY liquid to the person. Do not give anything by mouth to an unconscious person.
---------------	--

NOTICE TO PHYSICIANS: This product contains petroleum distillate and may pose an aspiration pneumonia hazard.

PRECAUTIONARY STATEMENTS: HAZARDS TO HUMANS & DOMESTIC ANIMALS

CAUTION. Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Personal Protective Equipment (PPE): Mixers, loaders, applicators, and other handlers must wear long-sleeved shirt and long pants, and shoes plus socks.

User Safety Requirements: Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

User Safety Recommendations: Users should wash hands before eating, drinking, chewing gum, tobacco, or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

Other Federal Regulations

SARA TITLE III CLASSIFICATION

Section 302: None

Section 311/312: Immediate (acute) hazard

Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

None

CERCLA RQ None

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. California Proposition 65: Not listed

STATE RIGHT-TO-KNOW: National, state, provincial or local emergency planning, community right-to-know or other laws, regulations or ordinances may be applicable--consult applicable national, state, provincial or local laws.

SECTION 16. Other Information

DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources we believe to be reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared as is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

™ COCOBEAR is a Trademark of Clarke Mosquito Control Products, Inc.

End of document

GROUP 3 INSECTICIDE



For use in, on and around buildings and structures for the control of listed pests, including on lawns, ornamental trees and shrubs around residential, institutional, public, commercial, agricultural and industrial buildings; and parks, recreational areas and athletic fields.



Do not use on golf course turf.

Active Ingredient:	
Lambda-cyhalothrin ¹	
(CAS No. 91465-08-6):	9.7%
Other Ingredients:	90.3%
Total:	100.0%

¹Synthetic pyrethroid, capsule suspension (microencapsulated)

KEEP OUT OF REACH OF CHILDREN.

CAUTION/ PRECAUCIÓN

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See additional precautionary statements and directions for use in booklet.

EPA Reg. No. 100-1066
EPA Est. 61282-WI-1

Product of the United Kingdom

SCP 1066A-L1P 1114

1 quart

Net Contents

FIRST AID	
If on skin or clothing	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately with plenty of water for 15-20 minutes.• Call a poison control center or doctor for treatment advice.
If in eyes	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15-20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• Call a poison control center or doctor for treatment advice.
If swallowed	<ul style="list-style-type: none">• Call a poison control center or doctor immediately for treatment advice.• Do not give any liquid to the person.• Do not induce vomiting unless told to do so by the poison control center or doctor.• Do not give anything by mouth to an unconscious person.
If inhaled	<ul style="list-style-type: none">• Move person to fresh air.• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.• Call a poison control center or doctor for further treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
HOT LINE NUMBER For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call 1-800-888-8372	

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION/PRECAUCIÓN

Harmful if absorbed through skin. Avoid breathing spray mist or vapor. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling, and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash before reuse. Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals.

Environmental Hazards

This product is extremely toxic to fish and aquatic invertebrates. To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters, or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run-off to water bodies or drainage systems. Drift and run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Apply this product only as specified on this label. When making applications, care should be used to avoid household pets, particularly fish and reptile pets.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

Physical and Chemical Hazards

Do not use this product in or on electrical equipment due to the possibility of shock hazard.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of this product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

IMPORTANT: Not for use on plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes. For use on plants intended for aesthetic purposes or climatic modification and being grown in interior landscapes, ornamental gardens or parks, or on lawns or grounds.

- Do not apply directly to impervious horizontal surfaces such as sidewalks, driveways, and patios except as a spot or crack-and-crevice treatment. During application, do not allow pesticide to enter or runoff into storm drains, drainage ditches, gutters or surface waters.

- All outdoor applications must be limited to spot or crack-and-crevice treatments only, except for the following permitted uses:

- 1 Treatment to soil or vegetation around structures;
- 2 Applications to lawns, turf, and other vegetation;
- 3 Applications to building foundations, up to a maximum height of 3 feet above grade;
- 4 Applications to underside of eaves, soffits, doors, or windows permanently protected from rainfall by a covering, overhang, awning, or other structure;
- 5 Applications around potential pest entry points into buildings, when limited to a surface band not to exceed one inch in width;
- 6 Applications made through the use of a coarse, low pressure spray to only those portions of surfaces that are directly above bare soil, lawn, turf, mulch or other vegetation, as listed on this label, and not over an impervious surface, drainage or other condition that could result in runoff into storm drains, drainage ditches, gutters, or surface waters, in order to control occasional invaders or aggregating pests.

- Do not water the treated area to the point of runoff.
- Do not make applications during rain.
- Do not apply directly to sewers or drains, or to any area like a gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur, except as directed by this label.

This product is restricted for use in the State of New York.

Resistance Management

Demand CS Insecticide is a Group 3 Insecticide that contains the active ingredient lambda-cyhalothrin. Due to the inherent risk of the development of resistance to any pesticide product, it is strongly advised that Demand CS Insecticide be used in a sound resistance-management program.

It is recommended that the following resistance management practices be followed, including, but not limited to:

- Rotating Demand CS Insecticide with products with different modes of action,
- Avoiding treatment of successive generations with Demand CS Insecticide, and
- Using labeled rates at specified spray intervals.

For additional information about implementing these or other resistance management practices, consult an Extension advisor or company representative.

INFORMATION: STRUCTURAL AND PERIMETER PEST CONTROL

For use as a surface, crack-and-crevice, or spot treatment in, on, and around buildings and structures and their immediate surroundings, and on modes of transport. Permitted areas of use include, but are not limited to, aircraft (cargo and other non-cabin areas only), apartment buildings, boiler rooms, buses, closets, correctional facilities, decks, entries, factories, fencing, floor drains (that lead to sewers), food granaries, food grain mills, food manufacturing, processing and serving establishments; furniture, garages, garbage rooms, greenhouses (non-commercial), hospitals, hotels and motels, houses, industrial buildings, laboratories, livestock/poultry housing, landscape vegetation, locker rooms, machine rooms, mausoleums, mobile homes, mop closets, mulch, nursing homes, offices, patios, pet kennels, porches, railcars, restaurants, storage rooms, schools, sewers (dry), stores, trailers, trees, trucks, utility passages, vessels, vestibules, warehouses, wineries and yards.

For indoor applications, retreat at 21-day intervals or as necessary to maintain control.

Mixing Instructions

Demand CS Insecticide is intended for dilution with water for application using hand-held or power-operated application equipment as a coarse spray for crack-and-crevice or spot and surface treatments. Application equipment that delivers low volume treatments, such as the Micro-Injector® or Actisol® applicator, may also be used to make crack-and-crevice or spot and surface treatments. Fill applicator tank with the desired volume of water and add Demand CS Insecticide. Close and shake before use in order to ensure proper mixing. Shake or re-agitate applicator tank before use if application is interrupted. Mix only amount required. A surface treatment of Demand CS Insecticide may be applied by using a paintbrush or other porous applicator attached to a handle.

Tank Mixing

Demand CS Insecticide may be tank-mixed with other currently registered pesticides unless expressly prohibited by the product label. To ensure compatibility, conduct a small volume mixing test with the other products. If mixed with sanitizers, add Demand CS Insecticide to the tank first. If other chemicals are added to the applicator tank, add Demand CS Insecticide last. If mixed with EC formulations, use within 24 hours. Fill tank to desired volume and continue to agitate while making applications.

Demand CS Insecticide may be tank-mixed with an Insect Growth Regulator (IGR) such as Archer® Insect Growth Regulator.

Observe all restrictions and precautions which appear on the labels of these products.

Foam Applications

Demand CS Insecticide may be converted to foam and the foam used to treat structural voids to control or prevent pests including ants, bees, termites (above ground only), wasps, or other arthropods harboring in walls, under slabs, or in other void areas.

RATES FOR STRUCTURAL PESTS (HAND APPLICATION EQUIPMENT)

Pests	Concentration of AI	Dilution Rate
Ants	0.015–0.03%	0.015%:
Bedbugs (adult)		0.2 fl oz
Bees		(6 mL)/gal of water
Beetles		
Boxelder Bugs		
Carpenter Bees		0.03%:
Carpet Beetles		0.4 fl oz
Centipedes		(12 mL)/gal
Cigarette Beetles		of water
Clover Mites		
Cockroaches ¹		
Confused Flour Beetles		
Crickets		
Earwigs		
Firebrats		
Fleas ²		
Flies		
Lesser Grain Borers		
Millipedes		
Mosquitoes		
Red Flour Beetles		
Rice Weevils		
Saw-toothed Grain Beetles		
Silverfish		
Sowbugs		
Spiders		
Termites (above ground only)		
Ticks		
Wasps		

Pests	Concentration of AI	Dilution Rate
Cockroaches ¹ Crickets ⁶ Flies ^{5*} Litter Beetles ³ (such as Darkling, Hide, and Carrion) Mosquitoes ⁴ Pillbugs Scorpions Spiders ⁶ Spider Mites (Twospotted, Spruce) Ticks ⁶	0.06%	0.8 fl oz (24 mL)/gal of water

*Not approved for use in California at the high rate.

¹ For cockroaches, the recommended rate for maintenance treatments is 0.015% and for clean-out treatments is 0.03%.

For control of SEVERE infestations, use 0.06% rate.

² For outdoor use only and use 0.03% rate.

³ For control of LIGHT beetle infestations, use 0.03% rate.

⁴ For residual control, use 0.06% rate.

⁵ Rates for flies may be increased to 0.06% when environmental conditions are severe and/or populations are high.

⁶ For clean-out/severe infestations, use 0.06% rate.

SPECIFIC USE DIRECTIONS

Ants

Apply to any trails around doors and windows and other places where ants may be found. For best results, locate and treat nests. Where ants are trailing inside, apply as a residual surface treatment to active areas such as baseboards, corners, around pipes, in and behind cabinets, behind and under refrigerators, sinks, furnaces and stoves, cracks and crevices. When combining baits and residual surface insecticides, apply surface insecticides in cracks and crevices, and along baseboards, infested surfaces, and outside barrier treatments. Treatment of perimeter landscaping can reduce honeydew-producing insects and limit this ant food source. Use baits in other areas that are untreated by residual insecticides; also see **Outdoor Surfaces Use**.

Cockroaches, Crickets, Earwigs, Firebrats, Silverfish, and Spiders

Apply as a coarse, low-pressure spray to areas where these pests hide, such as baseboards, corners, storage areas, closets, around water pipes, doors and windows, attics and eaves, cabinets, behind and under refrigerators, furniture, sinks, furnaces and stoves, the underside of shelves, drawers and similar areas. Pay particular attention to cracks and crevices; also see **Outdoor Surfaces Use**.

Bedbugs

Clean floors and surfaces by vacuuming before applications. Apply as a coarse, low-pressure spray to harborage areas including crevices, baseboards, loose plaster, behind bed frames and headboards, beneath beds and furniture, and to bedsprings and bed frames. Do not apply to furniture surfaces or mattresses where people will be laying or sitting. Do not treat infested bedding, but remove and place in sealed plastic bags, and take for laundering and drying at high temperatures.

Bees, Flies, Mosquitoes, and Wasps

Apply directly to walls, ceilings, window screens, and other resting areas as a residual surface treatment. Demand CS Insecticide may be used inside residential buildings as well as in and around carports, garages, and storage sheds; also see **Outdoor Surfaces Use**. Use caution when treating nests of stinging insects as Demand CS Insecticide does not provide instant knockdown. Protective equipment for the applicator may be required. For best results, treat bee, wasp and hornet nests late in the day when most insects will be present. Allow 2-3 days for colony to die and retreat if necessary.

For mosquito control, apply as a structural perimeter spray to landscape plantings, turf, and building foundations to control mosquitoes. Yards or other frequented areas enclosed by landscaping can benefit from the creation of a mosquito barrier to reduce invading mosquitoes by the treatment of perimeter vegetation. Apply Demand CS Insecticide at specified rates in 2–5 gallons of water per 1,000 sq ft. Higher volumes applied result in better coverage and, as a rule, will improve control. Application to vegetation away from structures may require additional certification, e.g., in turf or ornamental categories. Consult your state regulatory agency for requirements.

Carpenter Bees

Apply coarse spray to thoroughly wet wood surfaces where bees have been previously active or to provide protection against further damage. Apply early in the spring to prevent bees from invading wood. When bees have infested wood, surface applications can help control embedded larvae and bees that emerge from the wood. Applications can be made on a monthly basis to maintain protection of treated areas.

Pantry Pests (i.e., Carpet beetle, Cigarette beetle, Confused flour beetle, Lesser grain borer, Red flour beetle, Rice weevil, and Saw-toothed grain beetle)

Apply to cupboards, shelving, and storage areas. Remove all utensils, uncovered foodstuffs (or any having original package opened), and shelf paper before making application. Allow treated surfaces to dry and cover shelves with clean paper before replacing any utensils, foodstuff, or other items. Any foodstuff accidentally contaminated with treatment solution should be destroyed.

Boxelder Bugs, Centipedes, Millipedes, Pillbugs, and Sowbugs

Apply around doors and windows and other places where these pests may be found or where they may enter premises. Treat baseboards, storage areas, and other locations. Apply barrier treatments to prevent infestation as described below; also see **Outdoor Surfaces Use**.

Fleas and Ticks

To control nuisance fleas and ticks (e.g., dog ticks) apply to kennels, yards, runs, and other areas where pets may frequent. For best coverage to control ticks, apply using a coarse fan spray to vegetation brush, branches, rock walls, and other areas near habitation where ticks may harbor or frequent. Treat entire area rather than making spot treatments, and retreat as necessary to maintain control. Do not apply to pasture or cropland, and do not allow animals and people access to treated areas until the deposit has dried. Applications can be made on a monthly basis, beginning in the spring and can continue until frost to control both larvae and adult ticks. Also, treat pets with a product registered for flea and tick control. See **Outdoor Surfaces Use**.

Cluster Flies

Apply in late summer or early fall before flies are observed alighting on surfaces. Apply thoroughly on siding, under eaves, and around windows and doors, paying particular attention to south-facing surfaces. Apply just enough dilution to adequately cover the area without excessive dripping or runoff. Volume can vary depending on the surface type treated. Heavy precipitation prior to frost may require retreatments to maintain protection. In winter and spring when flies become active and are emerging, interior crack-and-crevice and void treatments can help reduce the infestation, along with ULV or surface application in infested attics or unoccupied lofts.

Litter Beetles (Darkling, Hide, and Carrion Beetles) and Flies in Animal Housing (Such as Poultry Houses)

To control adult litter beetles, apply Demand CS Insecticide to walls and floors at cleanout, before reintroduction of animals. This will suppress beetles that escaped earlier treatment and will help delay onset of future infestations. Pay attention to areas where beetles frequently occur, such as walls, supports, cages, stalls, and around feeders. To help control flies, apply a directed application to horizontal surfaces and overhead areas and allow it to dry before reintroduction of animals; also see **Livestock/Poultry Housing Structures and Pet Kennels**.

Application within Food-Handling Establishments (places other than private residences in which exposed food is held, processed, prepared, or served) including, but not limited to, areas for receiving, storage, packing (canning, bottling, wrapping, boxing), preparing foods, edible waste storage and enclosed processing systems (mills, dairies, edible oils, syrups), and serving areas.

Use as a crack-and-crevice or spot treatment in and around both food and nonfood areas. Apply in small amounts directly into cracks and crevices, using equipment capable of delivering a pin stream of insecticide, in points between different elements of construction, between equipment and floor, openings leading to voids and hollow spaces in walls, equipment and bases. Clean food contact surfaces and equipment with an effective cleaning compound and rinse with potable water before using.

Limit individual spot treatments to an area no larger than 20% of the treated surface. Individual spot treatments should not exceed 2 sq ft. Take extreme care that the product is not introduced into the air. Avoid contamination of food and food processing surfaces.

Application Within Food-Serving Areas (facilities where foods are served, such as dining rooms)

Apply as a crack-and-crevice or spot treatment to selective surfaces such as baseboards, under elements of construction, and into cracks and crevices. Do not treat surfaces likely to be contacted by food. (Do not apply when facility is in operation or foods are exposed.) Food must be covered or removed in area being treated. Do not apply directly to food or allow applications to contaminate food.

Application of this product in the Food Areas and/or Food-Serving Areas of Food-Handling Establishments other than as a spot and/or crack-and-crevice treatment is not permitted. Limit the use of application equipment such as the Micro-Injector or Actisol applicator in food areas to crack-and-crevice treatment only.

Livestock/Poultry Housing Structures and Pet Kennels

Apply as a surface (including directed sprays) and/or crack-and-crevice treatment. Control is enhanced when interior and exterior perimeter applications are made in and around the livestock, poultry, and pet housing structures. Normal cleaning practices of the structure also must be followed along with applications of Demand CS Insecticide to effectively control the crawling and flying insect pests listed in the table.

For unoccupied areas of livestock barns or housing structures, apply to floors, vertical, and overhead surfaces where crawling or flying insect pests are or may be present. Cover feeders, waterers, and feed carts before application to prevent contamination. Do not apply to milk rooms or feed rooms. Pay attention to animal areas including stanchions, pipes, windows and doors, and areas where insect pests hide or congregate. Exterior applications to south facing walls and foundation perimeters can help prevent interior infestations of flying and crawling insect pests.

For poultry houses, apply to floor area (birds grown on litter) or to walls, posts, and cage framing (birds grown in cages). Also make applications into cracks and crevices around insulation. Reapply after each grow-out or sanitization procedure. Indoor control can be enhanced by making perimeter treatments around the outside of building foundations to prevent immigrating adult beetles. Apply in a uniform band 1–3 ft up and 2–6 ft out from foundation. Maintaining a year-round treatment program will prevent background populations from reaching problem levels.

Do not make interior applications of Demand CS Insecticide in areas of facility where animals other than cattle or calves are present. Allow treated surfaces to completely dry before restocking the facility.

DO NOT make applications to any animal feedstuffs, water, or watering equipment.

DO NOT contaminate any animal food, feed, or water in and around livestock, poultry, or pet housing when making applications.

Outdoor Surfaces Use

For control of ants, bees, centipedes, cockroaches, crickets, fleas, flies, millipedes, mosquitoes, scorpions, sowbugs, pillbugs, spiders, termites (above-ground only), ticks, wasps, and other similar perimeter arthropod pests. Apply with either hand or power application equipment as a residual treatment to ornamental plants next to foundations of buildings and to surfaces of buildings, porches, screens, window frames, eaves, patios, garages, refuse dumps, and other similar areas where these insect pests are active. For termites, this type of application is not intended as a substitute for soil treatment-labeled termiticides, mechanical alteration to control subterranean termites, or fumigation for extensive infestation of drywood termites or other wood-infesting insects. The purpose of such applications of Demand CS Insecticide for termites is to kill workers or winged reproductive forms which may be present in treated channels at the time of treatment. Such applications are not a substitute for mechanical alteration, soil treatment or foundation treatment, but are merely a supplement. This product is not recommended as sole protection against termites. For active termite infestations, get a professional inspection.

Structural Perimeter Barrier Treatments

Applying a continuous band of insecticide around a building foundation and around windows, doors, service line entrances, eaves, vents, and other areas can greatly reduce the potential for entry by crawling pests. To facilitate application, remove debris and leaf litter from next to the foundation, cut back vegetation and branches that touch the foundation, and move or rake back rocks, deep mulch, or other potential pest harborage next to the foundation. Apply the band up to 10-ft wide around the structure (or according to state regulations governing commercial pest control) and upwards along the foundation to 3 ft and around windows, doors, and roof overhangs. Apply as a coarse spray to thoroughly and uniformly wet the foundation and/or band area so that the insecticide will reach the soil or thatch level where pests may be active.

Amount of concentrate is dependent upon pest species (see pest table and comments), infestation levels, and service interval desired.

Rate Table for Structural Perimeter Barrier Applications

Application Rate of Demand CS Insecticide	Gallons of Water ¹	Area of Coverage (sq ft)
0.2 fl oz (6 mL)	1–5	800–1,600
0.4 fl oz (12 mL)	1–5	800–1,600
0.8 fl oz (24 mL)	1–5	800–1,600

¹Application volume may be greater than 5 gal/800–1,600 sq ft if required under heavy vegetative or landscaping materials in order to obtain desired coverage.

Examples of Dilutions for Structural Perimeter Barrier Applications

Application Volume: Gallons of Solution/ 1,000 sq ft	Application Rate of Demand CS Insecticide/ 1,000 sq ft	Amount of Demand CS Insecticide to Dilute in Water According to Spray Tank Volumes		
		5 gallons	10 gallons	50 gallons
1	0.2 fl oz (6 mL)	1 fl oz (30 mL)	2 fl oz (60 mL)	10 fl oz (300 mL)
	0.4 fl oz (12 mL)	2 fl oz (60 mL)	4 fl oz (120 mL)	20 fl oz (600 mL)
	0.8 fl oz (24 mL)	4 fl oz (120 mL)	8 fl oz (240 mL)	40 fl oz (1200 mL)
2	0.2 fl oz (6 mL)	0.5 fl oz (15 mL)	1 fl oz (30 mL)	5 fl oz (150 mL)
	0.4 fl oz (12 mL)	1 fl oz (30 mL)	2 fl oz (60 mL)	10 fl oz (300 mL)
	0.8 fl oz (24 mL)	2 fl oz (60 mL)	4 fl oz (120 mL)	20 fl oz (600 mL)
5	0.2 fl oz (6 mL)	0.2 fl oz (6 mL)	0.4 fl oz (12 mL)	2 fl oz (60 mL)
	0.4 fl oz (12 mL)	0.4 fl oz (12 mL)	0.8 fl oz (24 mL)	4 fl oz (120 mL)
	0.8 fl oz (24 mL)	0.8 fl oz (24 mL)	1.6 fl oz (48 mL)	8 fl oz (240 mL)

Example calculation: to apply the mid-rate of Demand CS Insecticide at a volume of 5 gal/1,000 sq ft, mix 4 fl oz of concentrate in 50 gallons of water.

The percent active ingredient in the finished Demand CS Insecticide dilution can be calculated with the following formula:

mL needed to add times 9.7% active in concentrate, divided by gallons finished dilution times 3,785 mL/gal = % active in dilution. (Example: 4 fl oz in 50 gal is 120 mL, times 9.7 equals 1,164, and 50 gallons times 3,785 is 189,250. Dividing 1,164 by 189,250 equals 0.006% active in the tank dilution).

NOTE: Do not use water-based sprays of Demand CS Insecticide in conduits, motor housings, junction boxes, switch boxes, or other electrical equipment because of possible shock hazard. Thoroughly wash out sprayer and screen with water and detergent before using Demand CS Insecticide. Demand CS Insecticide has not stained or caused damage to painted or varnished surfaces, plastics, fabrics, or other surfaces where water applied alone causes no damage. However, treat a small area and allow it to dry to determine whether staining will occur.

LET TREATED SURFACES DRY BEFORE ALLOWING HUMANS AND PETS TO CONTACT SURFACES.

Do not use this product with oil.

Do not apply this product in any room being used as living, eating, sleeping, or recovery area by patients, the elderly, or infirm when they are in the room.

Do not apply to classrooms when in use.

Do not apply to institutions (including libraries, sports facilities, etc.) in the immediate area when occupants are present.

Do not apply this product to edible growing crops or stored raw agricultural commodities used for food or feed.

Do not allow applications to contact water inhabited by fish, such as in aquariums and ornamental fish ponds that are located in/ around structures being treated.

INFORMATION: LAWNS/TURFGRASS AND ORNAMENTALS

Demand CS Insecticide may be used for applications to maintain indoor or outdoor areas where turf and ornamentals are grown, such as residential landscaped areas and non-residential landscapes around institutional, public, commercial and industrial buildings, parks, recreational areas, and athletic fields. Application rates for turf and ornamental applications of Demand CS Insecticide are lower than structural pest control rates, reflecting that treatment intervals are generally more frequent.

Applicators must ensure that they are certified in the necessary pesticide certification categories to allow application of Demand CS Insecticide away from structures, such as to turf and ornamental plantings. Structural pest control certification categories may limit the distance away from structures for pesticide application. Consult your state extension office or pesticide regulatory officials for further information.

IMPORTANT: Time application to flowering plants during periods when pollinating insects are not present, such as early morning or late evening.

Do not apply this product through any type of irrigation system.

Do not apply this product to edible crops.

Do not apply this product by aerial application.

Use of this pesticide adjacent to water may affect aquatic organisms. To protect these organisms, do not apply this pesticide within 25 ft of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish farm ponds.

Do not make outdoor broadcast applications to turf and ornamentals when wind speed is 15 mph or greater.

In the State of New York, do not apply within 100 ft of coastal marshes or streams that drain into coastal marshes.

Mixing Instructions (Turf and Ornamental Dilutions)

Demand CS Insecticide is to be mixed with water and may be used in all types of standard application equipment. Fill applicator tank with the desired volume of water and add Demand CS Insecticide. Adjust water pH with a buffering agent if necessary to achieve a pH of 5-7. Slowly add Demand CS Insecticide to applicator tank water with maximum agitation. Close and shake or re-agitate applicator tank before use if application is interrupted. Make up only amount of treatment volume as required.

Tank Mixing (Turf and Ornamental Dilutions)

Demand CS Insecticide may be tank-mixed with other currently registered pesticides unless expressly prohibited by the product label. Adjuvants such as spreader stickers, wetting agents, and penetrants may also be added. To ensure compatibility, conduct a small volume mixing test with the other products. If other chemicals are added to the applicator tank, add Demand CS Insecticide last. Fill tank to desired volume and continue to agitate while making applications. If mixed with EC formulations, use within 24 hours.

Observe all restrictions and precautions which appear on the labels of these products.

Tank Dilution Rates for Ornamental Pests

Use	Pest	Amount of Demand CS Insecticide
Ornamentals in Residential Landscaped Areas and Landscaped Areas Around Institutional, Public, Commercial and Industrial Buildings, Parks, Recreational Areas, and Athletic Fields (Including Trees, Shrubs, Flowers, Evergreens, Foliage Plants and Groundcovers)	Ants (including Imported Fire Ants)	1.5-5 fl oz/ 100 gal
	Armyworms Azalea caterpillars Aphids Bagworms Black vine weevils (adult) Boxelder bugs Budworms California oakworms Cankerworms Cockroaches Crickets Cutworms Eastern tent caterpillars Elm leaf beetles European sawflies Fall webworms Flea beetles Forest tent caterpillars Gypsy moth larvae Japanese beetles (adults) June beetles (adults) Lace bugs Leaf-feeding caterpillars Leafhoppers Leafminers (adults) Leaf rollers Leaf skeletonizers Midges Oleander moth larvae Pillbugs Pine sawflies Pine shoot beetles Pinetip moths Plant bugs Root weevils Sawflies Scale insects (crawlers) Spiders Spittlebugs Striped beetles Striped oakworms Thrips Tip moths Tussock moth larvae Wasps	or 44-148 mL/ 100 gal
	Broadmites Brown soft scale California red scale (crawlers) Clover mites Mealybugs Pine needle scale (crawlers) Spider mites Whiteflies	3-5 fl oz/ 100 gal or 88-148 mL/ 100 gal

Example calculation: to prepare a mid-rate dilution of Demand CS Insecticide, mix 3 fl oz (88 mL) of concentrate in 100 gallons.

Start application to ornamentals prior to the establishment of high insect pest populations. Make reapplications as necessary to keep pest populations under control, using higher rates as pest pressure increases.

Apply at 7-day intervals if retreatment is necessary. Limit more frequent treatments to spot treatments. Recognize that as plants grow, new foliage will be unprotected until treated.

Do not apply more than 0.36 lb of the ai (52.4 fl oz of concentrate)/A per year.

Good spray coverage is necessary to provide the most effective level of control. Addition of a spreader-sticker at specified rates may enhance the control of insects on certain species of ornamentals having waxy, hard-to-wet foliage.

For spot treatments, use 0.5 fl oz Demand CS Insecticide per 1–2½ gal of water.

Consult your state university or local Cooperative Extension Service office for specific pest control application timing in your area.

NOTE: While phytotoxicity testing has been carried out on a wide range of ornamental plants under various environmental conditions, and no phytotoxicity has been observed, certain cultivars may be sensitive to the final spray solution.

Pre-spray a selection of ornamental plants and observe them for 7–10 days prior to treating large areas if local use experience is unavailable. This is especially advisable if Demand CS Insecticide is being mixed with another product or ingredient besides water. See **Tank Mixing (Turf and Ornamental Dilutions)** instructions.

Scale: Thoroughly cover the plant with Demand CS Insecticide spray, including trunks, stems, twigs, and foliage for control of scale insects (crawler stage).

Bagworm: Apply Demand CS Insecticide when bagworm larvae begin to hatch. Spray directly on the larvae. Application is the most effective when the larvae are young.

Demand CS Insecticide Mixing Chart for Ornamental Insect Pest Control

Rate of Demand CS Insecticide	Amount of Demand CS Insecticide to Dilute in Water According to Spray Volumes				
	25 gallons	50 gallons	100 gallons	200 gallons	300 gallons
1.5 fl oz ¹	0.4 fl oz	0.8 fl oz	1.5 fl oz	3 fl oz	4.5 fl oz
3 fl oz ²	0.8 fl oz	1.5 fl oz	3 fl oz	6 fl oz	9 fl oz
5 fl oz ³	1.3 fl oz	2.5 fl oz	5 fl oz	10 fl oz	15 fl oz

¹ Equivalent to 3.5 mL/1,000 sq ft (or 5 fl oz/A) when applied at 8 gal/1,000 sq ft

² Equivalent to 7 mL/1,000 sq ft (or 10 fl oz/A) when applied at 8 gal/1,000 sq ft

³ Equivalent to 9.5 mL/1,000 sq ft (or 14 fl oz/A) when applied at 8 gal/1,000 sq ft

Power Spray Rates for Lawn and Turfgrass Pests

Use	Pest	Amount of Demand CS Insecticide
Lawns/Turfgrass Around Residential, Institutional, Public, Commercial and Industrial Buildings, Parks, Recreational Areas and Athletic Fields	Ants (including Imported Fire Ants) Armyworms Centipedes Crickets Cutworms Earwigs Fleas (adult) Grasshoppers Japanese beetles (adult) Millipedes Mites Pillbugs Sod webworms Sow bugs Ticks (including species which transmit Lyme disease)	3.4-7 mL/1,000 sq ft or 5–10 fl oz/A
	Bluegrass billbugs (adult) Black turfgrass ataenius (adult) Chiggers Fleas (adult) Grubs (suppression) Hyperodes weevils (adult) Mole crickets (nymphs and young adults)	7 mL/1,000 sq ft or 10 fl oz/A

Example calculation: to treat listed turf pests at the mid-rate for Demand CS Insecticide of 7 mL/1,000 sq ft, determine gallons dilution/1,000 sq ft needed to cover turf. At 5 gallons/1,000 sq ft, add 7 mL ÷ 5 or 1.4 mL per gallon. For a 50-gallon tank, this would be equivalent to 70 mL or 2.5 fl oz in 50 gallons water.

Start application to turf prior to the establishment of high insect pest populations and significant turf damage. Make reapplications as necessary to keep pest populations under control, using higher rates as pest pressure increases.

Apply at 7-day intervals if retreatment is necessary. Limit more frequent treatments to spot treatments.

Do not apply more than 0.36 lb of ai (52.4 fl oz of concentrate)/A per year.

For spot treatments, use 0.5 fl oz of Demand CS Insecticide per 1–2.5 gallons of water.

Do not apply when turfgrass is waterlogged or when soils are saturated with water (i.e., will not accept irrigation).

KEEP CHILDREN AND PETS OFF TREATED AREAS UNTIL SPRAY HAS DRIED FOLLOWING THE APPLICATION.

Surface Insect Control (armyworm, cutworms, fleas, etc.)

Apply Demand CS Insecticide at specified rates in 2–5 gallons of water per 1,000 sq ft. The use of a spreader-sticker may be useful if high rainfall amounts are forecast, otherwise the addition of adjuvants is not necessary under normal conditions for surface insect control in turf. Delay watering or mowing for 12–24 hours for optimum control of surface-feeding insect pests.

Thatch-Inhabiting Insect Control (chinch bugs, billbugs, etc.)

Apply Demand CS Insecticide at specified rates in 2–10 gallons of water per 1,000 sq ft. The use of a nonionic wetting agent, penetrant or similar adjuvant is recommended. Lightly irrigate after application with up to 1/2 inch of water to move the Demand CS Insecticide into the thatch layer. If irrigation is not available, then use high water application rates for optimum results.

Subsurface Insect Control (mole crickets, grubs, etc.)

Apply Demand CS Insecticide at specified rates in 4–10 gallons of water per 1,000 sq ft. The use of a nonionic wetting agent, penetrant or similar adjuvant is strongly recommended. Use the highest water application rates possible with your sprayer. Apply Demand CS Insecticide to turf wet with dew, rain or irrigation. Water in immediately after application with 1/4–1/2 inch of water for optimum results.

Fire Ant Control

Treat individual mounds with a drench application using a watering can. Use 0.5 fl oz of Demand CS Insecticide per 2.5 gallons of water. Thoroughly soak each mound and a 3-ft diameter circle around each mound. Gently apply the mixture to avoid disturbing the mound. Disturbing the mound may cause the ants to migrate and reduce the effectiveness of the treatment. For best results, apply in early morning or late evening hours. Applications can be made on a monthly basis to maintain protection of treated areas.

Demand CS Insecticide Mixing Chart for Turf Insect Pest Control

(Demand CS Insecticide to add per 100 gal spray tank)

Rate of Demand CS Insecticide	Application Rate Per 1,000 sq ft of Turf				
	2 gallons	4 gallons	6 gallons	8 gallons	10 gallons
5 fl oz/A	5.7 fl oz	2.9 fl oz	1.9 fl oz	1.4 fl oz	1.2 fl oz
10 fl oz/A	11.5 fl oz	5.7 fl oz	3.8 fl oz	2.9 fl oz	2.3 fl oz

Conversion Rate: 1 fluid ounce (fl oz) equals 29.6 milliliters (mL).

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage

Keep container closed when not in use. Do not store near food or feed. Shake well before use. Protect from freezing. In case of spill or leak on floor or paved surfaces, soak up with sand, earth, or synthetic absorbent. Remove to chemical waste storage area until proper disposal can be made.

Pesticide Disposal

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

Container Handling

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for later use and disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of empty container in a sanitary landfill or by incineration.

Archer®, Demand®, the ALLIANCE FRAME, the SYNGENTA Logo, and the PURPOSE ICON are Trademarks of a Syngenta Group Company

Actisol® is a registered trademark of Environmental Delivery Systems, Inc.

Micro-Injector® is a registered trademark of Whitmire Micro-Gen Research Laboratories, Inc.

©2017 Syngenta

For non-emergency (e.g. current product information) call Syngenta Crop Protection at 1-800-334-9481.

Manufactured for:
 Syngenta Crop Protection, LLC
 P.O. Box 18300
 Greensboro, North Carolina 27419-8300

SCP 1066A-L1P 1114

DEMAND® CS Insecticide

Date: 6/12/2015
Replaces: 1/28/2015

1. PRODUCT IDENTIFICATION

Product identifier on label: **DEMAND® CS Insecticide**

Product No.: A12690A

Use: Insecticide

Manufacturer: Syngenta Crop Protection, LLC
Post Office Box 18300
Greensboro NC 27419

Manufacturer Phone: 1-800-334-9481

Emergency Phone: 1-800-888-8372

2. HAZARDS IDENTIFICATION

Classifications: Inhalation: Category 4
Skin Sensitizer: Category 1B
Specific Target Organ Toxicity: Repeated Category 2
Specific Target Organ Toxicity: Drowsiness Category 3
Specific Target Organ Toxicity: Respiratory Irritation Category 3

Signal Word (OSHA): Warning

Hazard Statements: May cause an allergic skin reaction
Harmful if inhaled
May cause respiratory irritation
May cause drowsiness or dizziness
May cause damage to organs

Hazard Symbols:



Precautionary Statements: Do not breathe mist, vapors, spray.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves, protective clothing, eye protection.
If on skin: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
Call a poison center, doctor or Syngenta if you feel unwell.
See Section 4 First Aid Measures.
Wash contaminated clothing before reuse.

DEMAND® CS Insecticide

Date: 6/12/2015
Replaces: 1/28/2015

Store locked up.

Dispose of contents and container in accordance with local regulations.

Other Hazard Statements: May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Common Name	CAS Number	Concentration
Xylene	Xylene	1330-20-7	<1%
1,2,4-Trimethylbenzene	1,2,4-Trimethylbenzene	95-63-6	<2.5%
Cumene	Cumene	98-82-8	<1%
1,2-Propanediol	Propylene Glycol	57-55-6	Trade Secret
Petroleum Solvent	Petroleum Solvent	64742-95-6	Trade Secret
Other ingredients	Other ingredients	Trade Secret	>85.8%
[1a(S*),3a(Z)]-cyano(3-phenoxyphenyl)methyl-3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate	Lambda-Cyhalothrin	91465-08-6	9.7%

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

Have the product container, label or Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison control center or doctor, or going for treatment.

- Ingestion:** If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
- Eye Contact:** If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Skin Contact:** If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Inhalation:** If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

Most important symptoms/effects:

- Allergic skin reaction
- Drowsiness or dizziness
- Respiratory irritation

Indication of immediate medical attention and special treatment needed:

There is no specific antidote if this product is ingested.

Treat symptomatically.

Persons suffering a temporary allergic reaction may respond to treatment with antihistamines or steroid creams and/or systemic steroids.

DEMAND® CS Insecticide

Date: 6/12/2015

Replaces: 1/28/2015

Skin contact paresthesia effects (itching, tingling, burning or numbness) are transient, lasting up to 24 hours. Treat symptomatically.

Contains petroleum distillate - vomiting may cause aspiration pneumonia.

5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Use dry chemical, foam or CO2 extinguishing media. If water is used to fight fire, dike and collect runoff.

Specific Hazards:

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Special protective equipment and precautions for firefighters:

Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures:

Follow exposure controls/personal protection outlined in Section 8.

Methods and materials for containment and cleaning up:

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions in Protective Equipment Section. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

7. HANDLING AND STORAGE

Precautions for safe handling:

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Conditions for safe storage, including any incompatibilities:

Store locked up.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

Occupational Exposure Limits:

Chemical Name	OSHA PEL	ACGIH TLV	Other	Source
Xylene	100 ppm TWA	100 ppm TWA; 150 ppm STEL	100 ppm TWA	NIOSH
1,2,4-Trimethylbenzene	Not Established	25 ppm TWA	25 ppm TWA	NIOSH
Cumene	50 ppm TWA (skin)	50 ppm TWA	Not Established	Not Applicable

DEMAND® CS Insecticide

Date: 6/12/2015
Replaces: 1/28/2015

Propylene Glycol	Not Established	Not Established	10 mg/m ³ TWA	AIHA
Petroleum Solvent	Not Established	Not Established	100 mg/m ³ (19 ppm) TWA	Manufacturer
Other ingredients	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lambda-Cyhalothrin	Not Established	Not Established	0.04 mg/m ³ TWA (skin)	Syngenta

Appropriate engineering controls:

Use effective engineering controls to comply with occupational exposure limits (if applicable).

Individual protection measures:

Ingestion:

Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Eye Contact:

Where eye contact is likely, use chemical splash goggles.

Skin Contact:

Where contact is likely, wear chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber or Viton), coveralls, socks and chemical-resistant footwear. Stringent housekeeping measures are necessary to prevent translocation of the material from contaminated work surfaces to uncontaminated surfaces (railings, doors, etc.). Unprotected contact with such translocated material can result in paresthesia effects (see Section 11).

Inhalation:

A combination particulate/organic vapor respirator should be used until effective engineering controls are installed to comply with occupational exposure limits, or until exposure limits are established. Use a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P or HE filter.

Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Off-white liquid

Odor: Slight odor/typical aromatic solvent

Odor Threshold: Not Available

pH: 7.3 (1% w/w dilution in deionized water)

Melting point/freezing point: Not Applicable

Initial boiling point and boiling range: 212 °F

Flash Point (Test Method): > 212°F (Setaflash)

Flammable Limits (% in Air): Not Available

Flammability: Not Applicable

Vapor Pressure: Lambda-Cyhalothrin 1.5 x 10⁻⁹ mmHg @ 68°F (20°C)

Vapor Density: Not Available

Relative Density: 1.036 @ 68°F (20°C)

Solubility (ies): Lambda-Cyhalothrin 0.004 mg/l

Partition coefficient: n-octanol/water: Not Available

DEMAND® CS Insecticide

Date: 6/12/2015
Replaces: 1/28/2015

Autoignition Temperature: Not Available
Decomposition Temperature: Not Available
Viscosity: Not Available
Other: None

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.
Chemical stability: Stable under normal use and storage conditions.
Possibility of hazardous reactions: Will not occur.
Conditions to Avoid: None known.
Incompatible materials: None known.
Hazardous Decomposition Products: None known.

11. TOXICOLOGICAL INFORMATION

Health effects information

Likely routes of exposure: Dermal, Inhalation

Symptoms of exposure: Drowsiness or dizziness, Respiratory irritation

Delayed, immediate and chronic effects of exposure: Allergic skin reaction, Drowsiness or dizziness, Respiratory system effects, Paresthesia

Numerical measures of toxicity (acute toxicity/irritation studies (finished product))

Ingestion:	Oral (LD50 Rat) :	> 5000 mg/kg body weight
Dermal:	Dermal (LD50 Rat) :	> 2000 mg/kg body weight
Inhalation:	Inhalation (LC50 Rat) :	> 4.62 mg/l
Eye Contact:	Non-Irritating (Rabbit)	
Skin Contact:	Practically Non-Irritating (Rabbit)	
Skin Sensitization:	A weak skin sensitizer in animal tests.	

Reproductive/Developmental Effects

Lambda-Cyhalothrin : Not a developmental or reproductive toxicant.

Chronic/Subchronic Toxicity Studies

Lambda-Cyhalothrin : Reversible paresthesia (abnormal skin sensation).
Reversible clinical signs of neurotoxicity in mammals.

Carcinogenicity

DEMAND® CS Insecticide

Date: 6/12/2015
Replaces: 1/28/2015

Lambda-Cyhalothrin : No treatment-related tumors in rats or mice.

Chemical Name	NTP/IARC/OSHA Carcinogen
Xylene	IARC Group 3
1,2,4-Trimethylbenzene	No
Cumene	No
1,2-Propanediol	No
Petroleum Solvent	No
Other ingredients	No
[1a(S*),3a(Z)]-cyano(3-phenoxyphenyl)methyl-3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate	No

Other Toxicity Information

In humans, contact with exposed skin may result in temporary itching, tingling, burning or numbness, called paresthesia. The effect may result from splash, aerosol, or hot vapor contact, or transfer to the face from contaminated gloves and hands. The symptoms normally disappear within 24 hours. Face and genital areas are especially susceptible to this effect. Paresthesia involving the face is also known as "subjective facial sensation" or SFS.

Toxicity of Other Components

1,2,4-Trimethylbenzene

Inhalation of 1,2,4-trimethylbenzene at high concentrations can cause central nervous system depression, respiratory tract irritation, asphyxiation, cardiac stress and coma. Effects of chronic exposure to this solvent can include blood disorders (anemia, leukopenia) and kidney or liver damage.

Cumene

Exposure to cumene vapors may cause irritation to eyes, skin, and respiratory tract. Cumene may also cause headaches, dizziness, anesthesia, drowsiness, unconsciousness and other central nervous system effects. Prolonged exposure to high concentrations (>100 PPM) may result in liver, kidney or lung damage.

Other ingredients

Not Applicable

Petroleum Solvent

The supplier reports that high vapor/aerosol concentrations (> 1000 ppm) are irritating to the eyes and the respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness and other central nervous system effects.

Propylene Glycol

Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea. Also, eye irritation may occur with lacrimation but no residual discomfort or injury. Prolonged contact to skin may cause mild to moderate irritation and possible allergic reactions. Chronic dietary exposure caused kidney and liver injury in experimental animals.

Xylene

Inhalation of xylene at high concentrations can cause central nervous system depression, respiratory tract irritation, asphyxiation, cardiac stress and coma.

Target Organs

Active Ingredients

Lambda-Cyhalothrin : Liver, nervous system

Inert Ingredients

1,2,4-Trimethylbenzene: CNS, liver, kidney, blood, respiratory tract, skin, eye
Cumene: Skin, eye, liver, respiratory tract, kidney, CNS
Other ingredients: Not Applicable
Petroleum Solvent: Eye, respiratory tract, CNS

DEMAND® CS Insecticide

Date: 6/12/2015

Replaces: 1/28/2015

Propylene Glycol:	CNS, kidney, liver
Xylene:	CNS, respiratory tract, skin

12. ECOLOGICAL INFORMATION

Eco-Acute Toxicity

Lambda-Cyhalothrin :

Fish (Rainbow Trout) 96-hour LC50 0.19 ppb
Bird (Mallard Duck) LD50 Oral > 3950 mg/kg
Invertebrate (Water Flea) 48-hour EC50 0.04 ppb

Environmental Fate

Lambda-Cyhalothrin :

The information presented here is for the active ingredient, lambda-cyhalothrin.
Not persistent in soil or water. Immobile in soil. Sinks in water (after 24 h).

13. DISPOSAL CONSIDERATIONS

Disposal:

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

14. TRANSPORT INFORMATION

DOT Classification

Ground Transport - NAFTA
Containers < 450 liters: Not regulated
Containers > 450 liters:
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Lambda-Cyhalothrin)
Hazard Class or Division: Class 9
Identification Number: UN 3082
Packing Group: PG III

Comments

Water Transport - International
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Lambda-Cyhalothrin), Marine Pollutant
Hazard Class or Division: Class 9
Identification Number: UN 3082
Packing Group: PG III

Air Transport

Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Lambda-Cyhalothrin)
Hazard Class or Division: Class 9
Identification Number: UN 3082
Packing Group: PG III

DEMAND® CS Insecticide

Date: 6/12/2015
 Replaces: 1/28/2015

15. REGULATORY INFORMATION

Pesticide Registration:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Caution: Harmful if absorbed through skin. Avoid breathing spray mist or vapor. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling, and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash before reuse. Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals.

EPA Registration Number(s):

100-1066

EPCRA SARA Title III Classification:

Section 311/312 Hazard Classes: Acute Health Hazard
 Chronic Health Hazard

Section 313 Toxic Chemicals: Xylene <1% (CAS No. 1330-20-7)
 1,2,4-Trimethylbenzene <2.5% (CAS No. 95-63-6)
 Cumene <1% (CAS No. 98-82-8)

CERCLA/SARA 304 Reportable Quantity (RQ):

Report product spills > 520 gal. (based on xylene [RQ = 100 lbs.] content in the formulation)

RCRA Hazardous Waste Classification (40 CFR 261):

Not Applicable

TSCA Status:

Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 2
 Flammability: 1
 Instability: 0

HMIS Hazard Ratings

Health: 2
 Flammability: 1
 Reactivity: 0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme
*	Chronic

Syngenta Hazard Category: C,S

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 7/14/1999

Revision Date: 6/12/2015

Replaces: 1/28/2015

Section(s) Revised: 2, 4, 11

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

DEMAND® CS Insecticide

Date: 6/12/2015

Replaces: 1/28/2015



Suspend[®] POLYZONE[®]

- Residual control that lasts for up to 90 days
- Reduces the number of applications necessary to maintain control
- Exclusive PolyZone technology creates a microscopic polymer film that protects AI from weather, precipitation, irrigation and mechanical abrasion
- Exclusive PolyZone technology binds AI to surface, and slowly releases over time to achieve extended control
- Extended residual under commercial conditions

ACTIVE INGREDIENT:

*Deltamethrin 4.75%

OTHER INGREDIENTS:..... 95.25%

TOTAL: 100.00%

*Contains 0.42 lb deltamethrin per gallon.

EPA Reg No. 432-1514

**STOP - READ THE LABEL
BEFORE USE.
KEEP OUT OF REACH OF
CHILDREN.
CAUTION**

See Back Panel for First Aid Instructions and Booklet for Complete Precautionary Statements and Directions for Use.

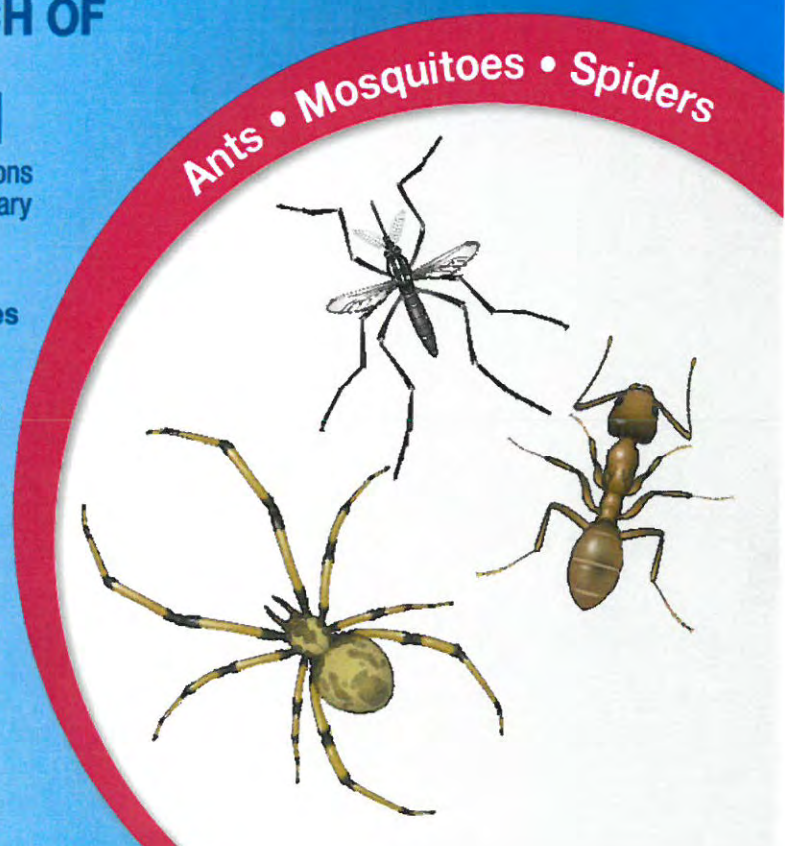
For **MEDICAL** and **TRANSPORTATION** Emergencies **ONLY** Call 24 Hours A Day
1-800-334-7577

For **PRODUCT USE** Information Call 1-800-331-2867

Net Contents
1 Gallon

84984329

84974447B 160920AV4



FIRST AID	
If in eyes:	<ul style="list-style-type: none"> • Hold eyes open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. • Call a poison control center or doctor for treatment advice.
If on skin or clothing:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor or going for treatment. In case of emergency call toll free the Bayer CropScience Emergency Response Telephone No. 1-800-334-7577.	
Note To Physician: No specific antidote is available. Treat the patient symptomatically.	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Causes moderate eye irritation. Avoid contact with skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Contact with product may result in transient tingling and reddening of the skin. Remove contaminated clothing and wash before reuse.

ENVIRONMENTAL HAZARDS

This product is extremely toxic to fresh water and estuarine fish and invertebrates. Use with care when applying in areas adjacent to any body of water. To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters, or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems.

This pesticide is highly toxic to bees exposed to direct treatment. Do not apply or allow it to drift to crops or weeds on which bees are foraging the treated area.

PHYSICAL AND CHEMICAL HAZARDS

Do not use water-based sprays of Suspend® PolyZone in conduits, motor housings, junction boxes, switch boxes, or other electrical equipment because of possible shock hazard.

Product Facts:	
<ul style="list-style-type: none"> • Residual Control that lasts for up to 90 days. • Longer residual means fewer applications required, reducing the number of applications required to maintain control. • Compared to SC formulations, this product improves rain fastness. • Exclusive formulation technology creates a microscopic polymer film that protects AI from weather, precipitation, irrigation, and mechanical abrasion. 	
Suspend PolyZone	<p>This product is a suspension concentrate formulation containing 0.42 lb of Deltamethrin per gal.</p> <p>This product is designed for use both indoors and outdoors and will provide effective knockdown and long residual control of the pests listed on this label.</p> <p>For residential, industrial and institutional control of major nuisance and public health pests listed on the label.</p> <p>Will not damage paints, plastics, fabrics or other surfaces where water alone causes no damage.</p>
Controls	<ul style="list-style-type: none"> • Indoor, Listed General Household Pests, Pantry and Stored Product Pests, and Food/Feed Processing/Handling Pests • Outdoor/ Perimeter Pests • Wood-Infesting Pests <p><i>For list of specific insects, see inside</i></p>
Where to Apply	<ul style="list-style-type: none"> • Apply where pests have been seen or found, or can find shelter. • In and around buildings and structures • On ornamentals in landscapes and interior plantscapes

Product Facts (cont.):	
Where to Apply	• On residential, commercial, and recreational areas of turf
Dilution Rates	<p>1. When 1.5 fl oz (45.4 ml) is diluted in one gal of water, the active ingredient concentration is equivalent to 0.06% Deltamethrin. Use of the 1.5 fl oz (0.06%) rate is recommended for severe pest infestations or when longer residual control is desired.</p> <p>2. When 0.75 fl oz (22.7 ml) is diluted in one gal of water, the active ingredient concentration is equivalent to 0.03% Deltamethrin. Use of the 0.75 fl oz (0.03%) rate is recommended for initial service or clean out treatments.</p> <p>3. When 0.25 fl oz (7.5 ml) is diluted in one gal of water, the active ingredient concentration is equivalent to 0.01% Deltamethrin. Use of the 0.25 fl oz (0.01%) rate is recommended for maintenance treatments.</p>
Mixing Information	<p>This product is intended to be mixed with water and applied with hand pressurized or power operated sprayers.</p> <p>Shake this product well before measuring concentrate for dilution in water.</p> <p>Mix the appropriate amount of this product with water.</p> <p>Thoroughly shake, agitate, or invert sprayer to insure proper suspension.</p> <p>If spraying is interrupted when using a back-pack or hand-held sprayer, invert sprayer to re-suspend the dilution before starting to make applications.</p> <p>Diluted spray mixture can be stored overnight, but agitate well before using.</p> <p>If spray screens are used, they should be 50 mesh or larger.</p>
Tank mixing	This product may be tank-mixed with other registered pesticides unless expressly prohibited by the product label. A small volume mixing test with other products is recommended to ensure compatibility. Take all restrictions and precautions which appear on the labels of these products.
How to Apply	<p>General surface applications, spot treatments, crack and crevice sprays, or void injections by sprays, mists, or foams.</p> <p>Broadcast application to turf and foliar application to ornamentals.</p>
Re-Apply	Treatments may be applied at 21-day intervals, or as necessary to maintain adequate control.
Re-Entry	<p>Do not have contact with treated surfaces until dry.</p> <p>Do not allow people or pets to re-enter until after the treated area is dry.</p>
Questions	For questions or comments, call toll free 1 800 331-2867

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

INDOOR PESTS				
Indoor applications to buildings and structures may be made as a general surface, spot treatment, crack and crevice applications, or void (spray, mist, foam) injections. For residential buildings and structures apply only as a crack and crevice or spot treatment. This includes schools, factories, stores, warehouses, hospitals, food processing facilities (food/feed and non food/feed areas), and modes of transportation. For a list of common facilities where this product may be used, see Appendix.				
Ants	Cluster flies	Firebrats	Hornets	Multi-colored Asian
Bed bugs	Cockroaches	Fleas	House flies	lady beetles
Blue/green bottle flies	Crickets	Flesh flies	Leather beetles	Phorid flies
Boxelder bugs	Darkling beetles	Flies	Midges	Pillbugs
Carpet beetles	Dermestids	Fruit flies	Millipedes	Sciarid flies (fungus
Centipedes	Earwigs	Gnats	Mosquitoes	gnats)
Clothes moths	Elm leaf beetles	Hide beetles	Moths	Scorpions

INDOOR PESTS (cont.)				
Silverfish Sowbugs Spiders Ticks Wasps Yellowjackets	<u>Pantry and Stored Product Pests: beetles & moths</u> Angoumois grain moths	Cigarette beetles Drugstore beetles Flour beetles Foreign grain beetles Grain weevils	Hairy fungus beetles Indian meal moths Lesser grain borers Mediterranean flour moths Merchant grain beetles	Saw-toothed grain beetles Warehouse beetles
Where to Apply	<p>Treat where pests have been seen or found, or can find shelter.</p> <p>Treat areas where pests normally feed or hide, such as baseboards, corners, around water pipes, behind and under refrigerators, cabinets, sinks and stoves.</p> <p>This product can be applied to walls, floors, ceilings, in and around cabinets, between, behind and beneath equipment and appliances, around floor drains, window and door frames and around plumbing, sinks and other possible pest harborage sites.</p> <p>Treat entry points around water pipes, utility penetrations, windows, doors, vents, and eaves.</p> <p>Void applications can be made behind veneers, piers, and chimney bases, into rubble foundations, into block voids and structural voids, wall voids, under slabs, stoops, porches or to the soil in crawlspaces, and other similar voids.</p> <p>Spot treat floors, floor coverings, carpets, or rugs for flea and tick control; DO NOT treat entire floor area.</p>			
Use Rate	<p>0.01% - - 0.25 fl oz (7.5 ml) per gal 0.03% - - 0.75 fl oz (22.7 ml) per gal 0.06% - - 1.50 fl oz (45.4 ml) per gal</p>			
How to Apply (see Application for Indoor Pests)	<p><u>Spot Applications</u></p> <ul style="list-style-type: none"> • Use a low pressure system (do not exceed 50 psi at nozzle tip) with a fan-type nozzle to uniformly apply spot treatments in and around cupboards, and beneath, between and behind equipment or appliances. • In the home, all food processing surfaces and utensils should be covered before treatment or thoroughly washed following treatment. Cover exposed food or remove from area being treated. <p><u>Spray, Mist or Foam Crack and Crevice or Void Applications</u></p> <ul style="list-style-type: none"> • Spray, mist, or foam directly into cracks and crevice or voids where pests or their nests are present. Apply the volume of spray, mist, or foam sufficient to cover the area. • Spray: Use a low pressure system (do not exceed 50 psi at nozzle tip) with a pin-point or variable pattern nozzle to apply the spray mixture to areas such as floors, cracks and crevices in and around baseboards, walls, expansion joints, areas around water and sewer pipes or utility penetrations, and voids created by equipment and appliances. • Mist: Use appropriate mist generating equipment. Do not allow mist to drift out of void spaces into commonly occupied areas of structure. • Foam: Use foam to treat structural voids and control pests in walls, under slabs or other void areas. Using appropriate foam generating equipment, mix dilution with manufacturer's specified volume of foaming agent and apply sufficient volume of foam. 			
When to Apply	<p>When pests are seen or found.</p> <p>Treatments may be applied at 21-day intervals, or as necessary to maintain adequate control.</p>			
Restrictions	<p>Do not apply broadcast treatments to floors or floor coverings.</p> <p>Do not apply as a space spray.</p> <p>Remove or tightly cover fish tanks and disconnect aerators during application.</p> <p>Keep people and pets away from sites of application until treated area has dried.</p> <p>When treating areas directly over your head, wear eye protection (safety glasses, goggles or face shield) and dust/mist mask or respirator.</p> <p>In the home, do not allow spray to contact food/feed surfaces. If it does, clean surfaces with soap and water.</p> <p>Do not allow people or pets to contact treated areas until spray has dried.</p>			

(continued)

INDOOR PESTS (cont.)

Restrictions	<p>Do not apply in hospital and/or nursing home rooms while they are occupied.</p> <p>Do not apply in classrooms while they are occupied.</p> <p>Do not apply in aircraft cabins.</p> <p>Do not apply to furniture or upholstery where prolonged contact with humans will occur.</p> <p>Do not apply as a space spray.</p> <p>Do not allow excessive dripping or run-off to occur when treating vertical or overhead surfaces.</p> <p>Do not apply in conduits, motor housings, junction boxes, switch boxes, or other electrical equipment because of possible shock hazard.</p>
---------------------	---

APPLICATION FOR INDOOR PESTS

<p>Ants, Centipedes, Clothes Moths, Cockroaches, Crickets, Earwigs, Firebrats, Millipedes, Pillbugs, Scorpions, Silverfish, Sowbugs, and Spiders</p>	<p>Apply as a coarse, low pressure (do not exceed 50 psi at nozzle tip) spot or crack and crevice spray to areas that these pests normally inhabit. Pay particular attention to dark corners of rooms and closets; floor drains; cracks and crevices in walls; along and behind baseboards; beneath and behind sinks, stoves, refrigerators, and cabinets; around plumbing and other utility installations; doors, window frames and in attics and crawl spaces. Spot applications may be made to floor surfaces along baseboards and around air ducts. Let surfaces dry before allowing people or pets to contact surfaces.</p>
<p>Pantry Pest Control</p>	<p>To kill adult and accessible immature stages of insects such as lesser grain borers, grain weevils, flour beetles, saw-toothed grain beetles, cigarette beetles, merchant grain beetles, Angoumois grain moths, Mediterranean flour moths, and Indian meal moths: Make applications to cupboards, shelving and storage areas. Remove all foodstuffs, all utensils, shelf paper, and other objects before spraying. Allow all treated surfaces to dry before replacing foodstuffs, utensils or other items. Any foodstuff accidentally contaminated with any spray solution must be discarded.</p>
<p>Ants, Cockroaches, Crawling and Flying Insect Pests Flies, Gnats, Midges, Mosquitoes (including mosquitoes that may transmit Zika, Dengue, Chikungunya, and West Nile virus), and Silverfish</p>	<p>Apply directly to walls, ceilings, window screens and other resting areas as a residual surface treatment. May be used inside residential buildings, as well as in and around carports, garages, storage sheds, unoccupied barns, stables, or pet kennels.</p>
<p>Ants Including Pharaoh's ant</p>	<p>Apply to trails, around doors and window frames and other areas where ants inhabit or enter premises.</p>
<p>Bed Bugs</p>	<p>Spray bed bugs and eggs directly wherever possible following site directions below. For infested mattresses, remove linens and wash before reuse. Apply to mattresses, especially tufts, folds, and edges until moist. Allow to dry before remaking bed.</p> <p>Apply to bedsprings, box springs, and the interior of bed frames or headboards, including all cracks and crevices.</p> <p>When bed bugs are found in upholstered furniture, apply only to the infested tufts, seams, folds and edges, but do not make broadcast applications to flat surfaces where prolonged human contact will occur. If bugs heavily infest furniture (inside cushions and/or batting) apply a labeled insecticide dust or consider fumigation.</p>

APPLICATION FOR INDOOR PESTS (cont.)	
Bed Bugs	Apply as a crack and crevice treatment to all baseboards, moldings, beneath floor coverings and carpets, closets, shelves, curtains, furniture and picture frames that may provide harborage to bed bugs.
Carpet Beetles, Fleas and Ticks	<p>A total integrated pest management program is recommended. It is suggested that infested areas be thoroughly vacuumed prior to treatment. These areas include all carpet, upholstered furniture, baseboards, and other indoor areas frequented by pets. The vacuum cleaner bag should be discarded in an outdoor trash container upon completion. Pet bedding should be cleaned or replaced.</p> <p>Apply this product as a uniform, coarse low-pressure (do not exceed 50 psi at nozzle tip) spot or crack and crevice treatment to areas where these pests normally inhabit. Limit spot treatments to pet bedding and its surrounding area, infested floor coverings and pest habitats. DO NOT treat entire area of floor, carpet or floor coverings. When these pests are found in upholstered furniture, apply only to the infested tufts, seams, folds and edges, but do not make broadcast applications to flat surfaces where prolonged human contact will occur.</p> <p>This product can also be applied out-of-doors for flea and tick control (see directions in Outdoor/Perimeter Pests).</p>
Pet Kennels	For residual control of crawling and flying insects in and around these structures, apply as a general surface and/or crack and crevice spray. Optimal control results if facilities to be treated are clean and if the exterior perimeter is concurrently treated with this product. Apply only to areas of facility where animals are not present. Allow spray to dry before allowing re-entry of animals into treated areas. Do not apply to animal feed or watering equipment. Do NOT treat pets with this product.
Food/Feed Handling Establishments	<p>For control of all labeled pests, applications are permitted in food/feed and non-food/non-feed areas of food/feed handling and processing establishments as a general surface, spot or crack and crevice treatment.</p> <p>Food/Feed handling establishments are defined as places other than private residences in which exposed food/feed is held, processed, prepared or served. Included also are areas for receiving, storing, packing (canning, bottling, wrapping, boxing), preparing, edible waste storage and enclosed processing systems (mills, dairies, edible oils, syrups) of food/feed. Serving areas where food/feed is exposed and the facility is in operation are also considered food/feed areas.</p> <p>Non-Food/Non-Feed Areas: Examples of non-food/non-feed areas include garbage rooms, lavatories, floor drains (to sewers), entries and vestibules, offices, locker rooms, machine rooms, boiler rooms, mop closets and storage (after packaging, canning or bottling). All areas that insects inhabit or through which insects may enter should be treated.</p> <p>General Surface Applications: Do not use this application method in the food/feed handling areas of the facility when the facility is in operation or foods/feeds are exposed. Do not apply directly to food/feed products. Cover or remove all food/feed processing and/or handling equipment during application. After application in food/feed processing plants, cafeterias and similar facilities, wash all equipment, benches, shelving, and other food contact surfaces. Clean exposed food/feed handling or processing equipment and thoroughly rinse with clean, fresh water. After application in bakeries, clean all food contact surfaces thoroughly with appropriate equipment.</p> <p>Spot or Crack & Crevice Applications: Except in federally inspected meat and poultry plants, spot or crack and crevice applications may be made while the facility is in operation provided exposed food is covered or removed from area being treated prior to application. Do not apply directly to food or food-handling surfaces.</p>
Grain Bins and Warehouses	Dilute 0.25-1.5 fl oz of product with water to make 1 gal of solution. Apply finished spray to equipment, wall and floor surfaces of grain bins and warehouses at the rate of 1 gal per 1000 sq ft prior to storing or handling grain. Application should be made only after equipment bins and buildings have been thoroughly cleaned. Empty bins or warehouses should be fumigated with an EPA registered fumigant according to the manufacturer's label directions and precautions when inaccessible areas exist. To help prevent infestation of these structures, apply product as a perimeter treat-

(continued)

APPLICATION FOR INDOOR PESTS (cont.)

Grain Bins and Warehouses	ment where pests are active and may find entrance. It is recommended to treat a band of soil or lawn up to 6-10 feet wide around and adjacent to structures and treat the foundation to a height of 2 to 3 feet. Mix 0.25 - 1.5 fl oz of product with water to make 1 gal of solution. Apply as a coarse spray at a rate of 1 gal per 1000 sq ft. Thoroughly and uniformly wet the barrier area but do not allow run-off to occur.
---------------------------	--

OUTDOOR/PERIMETER PESTS

Use this product to control outdoor pests by application as a perimeter treatment, residual spray or broadcast application to exterior surfaces of buildings, lawns, grounds, and ornamental plantings.

Ants	Crickets	Gnats	Multi-colored Asian lady beetle	Stable flies
Blue or green bottle flies	Earwigs	Ground beetles	Pill bugs	Ticks
Boxelder bugs	Elm leaf beetles	Hornets	Scorpions	Wasps
Brown marmorated stink bug	Fire ants	House flies	Silverfish	Yellow jackets
Carpenter ants	Firebrats	Midges	Sow bugs	
Centipedes	Fleas	Millipedes	Spiders	
Cockroaches	Flesh flies	Mosquitoes	Springtails	
Cluster flies	Flies	Moths		

Where to Apply	This product may be applied as a residual spray or as a perimeter treatment around residential and non-residential settings. <u>Residual Spray:</u> Apply to surfaces on building exteriors, porches, patios and other structures, around door and window frames, eaves and attic vents, utility entry points, soffit areas and other exterior openings (including foundation cracks or drilled holes) where pests enter the structure or where they have been seen or found, or can find shelter. <u>Perimeter Treatments:</u> Treat the outside of the structure, including walls (to a height of 2 to 3 feet), around door and window frames, and soffits where pests are active or may enter or hide. Treat the soil, turf, or other ground covering adjacent to the structure (in a band up to 10 feet wide) where pests are seen, have been found, or can find shelter. In ant management programs, apply to flower, shrub or ornamental plant beds where ants may be nesting, find food or forage.
----------------	---

Application Restrictions	Do not water the treated area to the point of run-off Do not make applications during rain. Do not apply directly to impervious horizontal surfaces such as sidewalks, driveways, and patios except as a spot or crack and crevice treatment. During application, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters, or surface waters. All outdoor applications, if permitted elsewhere on this label, must be limited to spot or crack and crevice treatments only, except for the following permitted uses: 1. Applications to soil or vegetation, as listed on this label, around structures; 2. Applications to lawns, turf, and other vegetation, as listed on this label; 3. Applications to the side of a building, up to a maximum height of 3 feet above grade; 4. Applications to underside of eaves, soffits, doors, or windows permanently protected from rainfall by a covering, overhang, awning, or other structure; 5. Applications around potential pest entry points into buildings, when limited to a surface band not to exceed one inch in width; 6. Applications made through the use of a coarse, low pressure spray to only those portions of surfaces that are directly above bare soil, lawn, turf, mulch or other vegetation, as listed on this label, and not over an impervious surface, drainage or other condition that could result in runoff into storm drains, drainage ditches, gutters, or surface waters, in order to control occasional invaders or aggregating pests. Application is prohibited directly into sewers or drains, or to any area like a gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur. Do not allow the product to enter any drain during or after application. Do not apply Suspend PolyZone through any type of irrigation system. Do not apply this product to edible crops.
--------------------------	---

(continued)

OUTDOOR/PERIMETER PESTS (cont.)																																					
Use Rate	0.25 fl oz (7.5 ml) per 1,000 sq ft of surface 0.75 fl oz (22.7 ml) per 1,000 sq ft of surface 1.50 fl oz (45.4 ml) per 1,000 sq ft of surface																																				
How to Apply (see Application for Outdoor/Perimeter Pests)	Apply as a coarse low pressure (do not exceed 50 psi at nozzle tip) spray at the rate of 0.25 to 1.5 fl oz of this product per 1,000 sq ft of surfaces. Apply in a sufficient volume of water to provide adequate coverage but do not allow run-off to occur. High volume applications using power sprayers: You must adjust the rate of product dilution to ensure the correct amount of the product (see Use Rate section above) is applied per 1,000 sq ft of treated surface. For example, mixing 12.5 fl oz of this product in a 50 gal tank, while using an application volume of 3.0 gals per 1,000 sq ft, will apply 0.75 fl oz of this product per 1,000 sq ft. The table below gives examples of end use dilutions for typical power spraying application volumes.																																				
	<p>DILUTION RATE CHART</p> <table border="1"> <thead> <tr> <th>Amount of Product fluid ounces (milliliter)</th> <th>Application Volume gallons water</th> <th>Concentration (% AI) in spray solution</th> </tr> </thead> <tbody> <tr> <td rowspan="5">0.25 (7.5)</td> <td>1</td> <td>0.01%</td> </tr> <tr> <td>2</td> <td>0.005%</td> </tr> <tr> <td>3</td> <td>0.0033%</td> </tr> <tr> <td>4</td> <td>0.0025%</td> </tr> <tr> <td>5</td> <td>0.002%</td> </tr> <tr> <td rowspan="5">0.75 (22.7)</td> <td>1</td> <td>0.03%</td> </tr> <tr> <td>2</td> <td>0.015%</td> </tr> <tr> <td>3</td> <td>0.01%</td> </tr> <tr> <td>4</td> <td>0.0075%</td> </tr> <tr> <td>5</td> <td>0.006%</td> </tr> <tr> <td rowspan="5">1.5 (45.4)</td> <td>1</td> <td>0.06%</td> </tr> <tr> <td>2</td> <td>0.03%</td> </tr> <tr> <td>3</td> <td>0.02%</td> </tr> <tr> <td>4</td> <td>0.015%</td> </tr> <tr> <td>5</td> <td>0.012%</td> </tr> </tbody> </table>	Amount of Product fluid ounces (milliliter)	Application Volume gallons water	Concentration (% AI) in spray solution	0.25 (7.5)	1	0.01%	2	0.005%	3	0.0033%	4	0.0025%	5	0.002%	0.75 (22.7)	1	0.03%	2	0.015%	3	0.01%	4	0.0075%	5	0.006%	1.5 (45.4)	1	0.06%	2	0.03%	3	0.02%	4	0.015%	5	0.012%
Amount of Product fluid ounces (milliliter)	Application Volume gallons water	Concentration (% AI) in spray solution																																			
0.25 (7.5)	1	0.01%																																			
	2	0.005%																																			
	3	0.0033%																																			
	4	0.0025%																																			
	5	0.002%																																			
0.75 (22.7)	1	0.03%																																			
	2	0.015%																																			
	3	0.01%																																			
	4	0.0075%																																			
	5	0.006%																																			
1.5 (45.4)	1	0.06%																																			
	2	0.03%																																			
	3	0.02%																																			
	4	0.015%																																			
	5	0.012%																																			
When to Apply	Begin applications when pests are noticed. Treatments may be applied at 21-day intervals or as necessary to maintain adequate control.																																				

APPLICATION FOR OUTDOOR/PERIMETER PESTS	
Ants, roaches and other listed crawling pests	Apply as a residual spray and/or perimeter treatment around the infested structure as described above. Locate and treat ant nests if possible. Follow trails of foraging worker ants and inspect for likely nest sites. If ants are nesting in soil, drench or inject the nest and surrounding soil. Foliar applications to landscape ornamentals will control aphids, scale insects, and other plant-sucking insects and limit the production of honeydew (an important food source for ant populations). Apply a light mist of the dilute spray, and do not allow excess run-off. Treat thoroughly for good coverage, including the underside of leaves. It is recommended to remove or prune away any shrubbery, bushes, or tree branches touching the structure. Vegetation touching the structure may offer a route of entry for ants into the structure, allowing ants to avoid contact with the treatment.
Occasional invaders including multi-colored Asian lady beetle, boxelder bug, brown marmorated stink bug, and elm leaf beetle.	Apply directly to insects that have congregated around doors, window frames, and similar areas where they may enter the structure. Apply a perimeter treatment as described above. For best results, treat trees and shrubs infested with boxelder bugs, elm leaf beetles, and other occasional invading species early in the season. Tree spraying may require ornamental license - check with your local regulator.

(continued)

APPLICATION FOR OUTDOOR/PERIMETER PESTS (cont.)

<p>Fleas and Ticks (including ticks that may transmit Rocky Mountain Spotted Fever)</p>	<p>Apply as a coarse wet spray to areas where fleas and ticks are most likely to be found, such as dog houses, kennels, runways, along paths or trails, under plants, shrubs, bushes, trees, or other shaded, moist areas where pests may be found. Treat the entire area where these pests could be present. Fleas and ticks may be re-introduced from surrounding areas by host animals.</p>
<p>Mosquitoes (including mosquitoes that may transmit Zika, Dengue, Chikungunya, and West Nile virus)</p>	<p>Treat with spray or mist around landscape plants, turf and ground cover, under decks, around building foundations and other places where mosquitoes may rest.</p>
<p>Fire Ants</p>	<p>Apply as a mound drench. Dilute 1.5 oz per one gal of water. Gently sprinkle 1 to 2 gals of the diluted insecticide over the surface of each mound and surrounding area to a 2-foot diameter. For best results, apply in cool weather, 65 to 80°F or in early morning or late evening hours. Treat new mounds as they appear.</p>
<p>Scorpions</p>	<p>Treat areas where scorpions may hide. Treat known or suspected harborages on and around exterior walls. Apply spot treatments into cracks, crevices, weep holes or other access points into hollow block walls or masonry veneer. Spray around and beneath stones and along rocky areas. Scorpions will often harbor beneath the bark on trees, so inspect these areas and treat as required. When possible, remove piles of debris and building materials near the exterior wall that can harbor the pests. Apply a perimeter treatment to the exterior walls and adjacent soil. You may treat around piles of firewood, but do not treat firewood with this product.</p>
<p>Hornets, wasps, and yellow jackets</p>	<p>Make a pin stream application directly to hornet or yellow jacket nests. To reduce sting threat, make applications in the evening when the insects are inside the nest. For paper wasps, use a pin stream or fan spray and apply over surface of exposed nest. Remove and destroy treated nests to prevent emergence of newly emerged insects. If removal is not possible, retreat nests as needed.</p>
<p>Centipedes, millipedes, pill bugs, sow bugs, springtails.</p>	<p>Apply perimeter treatment to reduce the number of insects entering the structure. Thoroughly treat mulched areas. Correcting moisture problems around the structure will reduce pest pressure.</p>
<p>House flies and Cluster flies</p>	<p>Apply low pressure (do not exceed 50 psi at nozzle tip) mist or spray to outside of surfaces of buildings, porches, patios, garages, fences, and other areas where house flies rest. Cluster flies: Treat in late summer or fall, just before cluster flies begin looking for winter shelter. Spray siding, eaves, around window frames and doors, and window screens. To help reduce infestations, treat cracks and crevices, attics and other indoor winter hiding places.</p>

WOOD-INFESTING PESTS

<p>Drywood termites Beetles - Lyctid or powder post</p>	<p>- Anobiid or deathwatch - False powderpost - old house borers</p>	<p>- wharf borers - Ambrosia beetles - bark beetles</p>	<p>Carpenter ants Carpenter bees</p>
<p>Where to Apply</p>	<p>For treatment of wood infested with, or subject to infestation by, wood-infesting pests. Apply where pests have been seen or found, or can find shelter. Not for structural protection.</p>		
<p>Use Rate</p>	<p>0.06% - - 1.50 fluid ounce (45.4 milliliter) per gallon</p>		

(continued)

WOOD-INFESTING PESTS (cont.)	
How to Apply	Apply spray, mist, or foam as described below in the application section. Treatment dilutions may also be applied to wood surfaces by paint brush or roller. Do not contact treated surfaces until dry.
When to Apply	When pests are seen or found. Treatments may be applied at 21-day intervals, or as necessary to maintain adequate control.
Foam Applications	This product can be converted to foam and used to treat structural voids to control wood-infesting pests in walls, under slabs, within masonry voids, or in other void areas. Mix end-use dilution with manufacturer's specified volume of foaming agent.

APPLICATION FOR WOOD-INFESTING PESTS	
Drywood termites & wood-in-festing beetles (Not for Structural Protection)	<p><u>Galleries and structural voids:</u> Treat by applying sprays, mists, or foams. Locate galleries by using visual signs (frass or pellets, blistered wood, emergence or clean out holes), the presence of live insects, mechanical sounding techniques, or listening devices (e.g., stethoscopes, acoustic emission detectors). Penetrate the gallery system by drilling holes to receive the injector tip or treatment tool. Distribute drill holes to adequately cover the gallery system. Apply as low pressure (do not exceed 50 psi at nozzle tip) spray, or by misting or, where appropriate, by foaming. Do not treat to the point where runoff is detected from adjacent holes.</p> <ul style="list-style-type: none"> • Avoid drilling where electrical wiring, plumbing lines, etc. are located. • Do not apply where electrical shock hazards exist. • Drill holes in commonly occupied areas must be sealed after treatment. <p><u>Wood surfaces:</u> Treat by spray or mist or, where appropriate, foam applications. For inaccessible surfaces, drill and treat the interior of structural voids. Surfaces treated may include exposed wooden surfaces in crawlspaces, basements, or attics. Wooden exterior surfaces such as decks, fencing, or siding, structural voids, channels in damaged wood, in spaces between wooden members of a structure, and junctions between wood and foundations. Apply by brushing or as a coarse, low pressure (do not exceed 50 psi at nozzle tip) spray to the wood surface; apply sufficient volume to cover the surface to the point of wetness, but avoid applying to the point of runoff.</p> <p>When spraying wood surfaces overhead in living areas, cover surfaces below the treated area with plastic sheeting or similar material. Do not contact treated surfaces until spray deposits have dried.</p>
Carpenter ants	<p>Homes and other structures: Apply around doors and window frames and other places where carpenter ants may enter. Spray or foam into cracks and crevices, or spray, mist or foam through small drilled holes into voids where ants or their nests are present. Use enough spray or foam to cover the area, but do not exceed 1 gal of dilute suspension per 1,000 sq ft of treated surface.</p> <p>It is recommended to remove or prune away any shrubbery, bushes, or tree branches touching the structure. Vegetation touching the structure may offer a route of entry for ants into the structure, allowing ants to avoid contact with the treatment.</p> <p>Exterior ant nests: Inside trees, utility poles, fencing and decking materials and similar structural members, drill to find the interior infested cavity and inject spray, mist, or foam using a treatment tool with a backslash guard.</p> <p>Tunneling in soil: Apply as a soil drench or inject the dilution or foam in the soil at intervals of 8 to 12 inches. Use 1 gal of dilution per 8 sq ft. Treat along the edges of walls, driveways or other hard surfaces where ants are tunneling beneath the surface.</p> <p>Protecting firewood from carpenter ants: Treat soil beneath firewood before stacking at 1 gal of dilution per 8 sq ft. Do not treat firewood with this product.</p>
Carpenter bees	<p>Apply as a spray or mist, or sufficient volume of foam, directly into gallery entrance holes. Leave entrance open to be sure that returning adult bees are killed. When there is no longer any insect activity, the entrance hole may be sealed with a suitable sealant. Exterior wood surfaces may be treated by general surface application to prevent nest cavity excavation by adult carpenter bees.</p>

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE

Mix as needed. Store in original container in a secured dry storage area. Avoid extremes in temperatures. Prevent cross contamination with other pesticides and fertilizers. If the container is leaking and/or material is spilled on floor or paved surfaces, absorb on sawdust or other commercially available absorbing material, sweep up and remove to chemical waste area for your disposal. Concentrate is stable at normal storage temperatures.

PESTICIDE DISPOSAL

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING

Less than one gal

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Securely wrap container in several layers of newspaper and discard in trash or offer for recycling if available. If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

One to 5 gal size

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill. If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

Rigid Non-refillable containers that are too large to shake (i.e., with capacities greater than 5 gals or 50 lbs)

Non-refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill.

Refillable container.

Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill.

APPENDIX

Use this product as a general surface, spot, mist, or crack and crevice treatment. Permitted areas of use include the following buildings, structures, and modes of transport:

- | | | |
|---|---|---|
| • aircraft (cargo holds only) | • grain mills | • nursing homes |
| • apartment buildings | • granaries | • offices |
| • bakeries | • greenhouses (structures only) | • pickle factories |
| • bottling facilities | • hospitals | • poultry houses |
| • breweries | • hotels | • processing and packing plants |
| • buses | • houses | • restaurants |
| • cafeterias | • industrial buildings | • schools |
| • candy plants | • kitchens | • spice plants |
| • cereal processing and manufacturing plants | • laboratories | • stores |
| • correctional facilities | • livestock housing | • warehouses |
| • dairies and dairy product processing plants | • pet kennels | • wineries and similar structures |
| • food manufacturing plants | • manufacturing establishments | • transportation vessels such as buses, trucks, trailers, rail cars, and marine vessels |
| • food processing plants | • mausoleums | |
| • food service establishments | • meat, poultry & egg processing & packaging plants | |
| • frozen food plants | • meat and produce canneries | |
| | • mobile & motor homes | |

IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of liability before using this product.

If terms are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, because of manner of use and other factors beyond Bayer CropScience LP's control it is impossible for Bayer CropScience LP to eliminate all risks associated with the use of this product. As a result, crop injury or ineffectiveness is always possible. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROP-SCIENCE LP MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of Bayer CropScience is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE LP DISCLAIMS ANY liability whatsoever for special, incidental or consequential damages, resulting from the use or handling of this product.

LIMITATIONS OF LIABILITY: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE PAID, OR AT BAYER CROP-SCIENCE LP'S ELECTION, THE REPLACEMENT OF PRODUCT.

Bayer (reg'd), the Bayer Cross (reg'd), Suspend® and PolyZone® are registered trademarks of Bayer.

Produced for:
Bayer Environmental Science
A Division of Bayer CropScience LP
5000 CentreGreen Way, Suite 400
Cary, NC 27513

Bayer



Suspend[®]

POLYZONE[®]

- Residual control that lasts for up to 90 days
- Reduces the number of applications necessary to maintain control
- Exclusive PolyZone technology creates a microscopic polymer film that protects AI from weather, precipitation, irrigation and mechanical abrasion
- Exclusive PolyZone technology binds AI to surface, and slowly releases over time to achieve extended control
- Extended residual under commercial conditions

ACTIVE INGREDIENT:

*Deltamethrin 4.75%

OTHER INGREDIENTS: 95.25%

TOTAL: 100.00%

*Contains 0.42 lb deltamethrin per gallon.

EPA Reg No. 432-1514

**STOP - READ THE LABEL BEFORE USE.
KEEP OUT OF REACH OF CHILDREN.
CAUTION**

See Back Panel for First Aid Instructions and Booklet for Complete Precautionary Statements and Directions for Use.

For MEDICAL and TRANSPORTATION Emergencies ONLY Call 24 Hours A Day
1-800-334-7577

For PRODUCT USE Information Call 1-800-331-2867

Net Contents

1 Gallon

84984329

84974447B 160920AV4

FIRST AID

If in eyes:	<ul style="list-style-type: none">• Hold eyes open and rinse slowly and gently with water for 15-20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.• Call a poison control center or doctor for treatment advice.
If on skin or clothing:	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately with plenty of water for 15-20 minutes.• Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. In case of emergency call toll free the Bayer CropScience Emergency Response Telephone No. 1-800-334-7577.

Note To Physician: No specific antidote is available. Treat the patient symptomatically.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Causes moderate eye irritation. Avoid contact with skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Contact with product may result in transient tingling and reddening of the skin. Remove contaminated clothing and wash before reuse.

ENVIRONMENTAL HAZARDS

This product is extremely toxic to fresh water and estuarine fish and invertebrates. Use with care when applying in areas adjacent to any body of water. To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters, or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems.

This pesticide is highly toxic to bees exposed to direct treatment. Do not apply or allow it to drift to crops or weeds on which bees are foraging the treated area.

PHYSICAL AND CHEMICAL HAZARDS

Do not use water-based sprays of Suspend PolyZone in conduits, motor housings, junction boxes, switch boxes, or other electrical equipment because of possible shock hazard.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE	Mix as needed. Store in original container in a secured dry storage area. Avoid extremes in temperatures. Prevent cross contamination with other pesticides and fertilizers. If the container is leaking and/or material is spilled on floor or paved surfaces, absorb on sawdust or other commercially available absorbing material, sweep up and remove to chemical waste area for your disposal. Concentrate is stable at normal storage temperatures.
PESTICIDE DISPOSAL	Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.
CONTAINER HANDLING	Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill. If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.



(01)00785740540640

Produced for:
Bayer Environmental Science
A Division of Bayer CropScience LP
5000 CentreGreen Way, Suite 400
Cary, NC 27513
Product of India

84922439B 160920AV4

Bayer

SAFETY DATA SHEET



SUSPEND® POLYZONE®

Version 2.0 / USA
102000030997

1/10
Revision Date: 04/26/2019
Print Date: 04/27/2019

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Trade name SUSPEND® POLYZONE®
Product code (UVP) 84493910
SDS Number 102000030997
EPA Registration No. 432-1514

Relevant identified uses of the substance or mixture and uses advised against

Use Insecticide
Restrictions on use See product label for restrictions.

Information on supplier

Supplier Bayer Environmental Science
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA
Responsible Department Email: SDSINFO.BCS-NA@bayer.com

Emergency telephone no.
Emergency Telephone Number (24hr/ 7 days) 1-800-334-7577
Product Information Telephone Number 1-800-331-2867

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200
Skin irritation: Category 2

Labelling in accordance with regulation HCS 29CFR §1910.1200



Signal word: Warning

Hazard statements
Causes skin irritation.

Precautionary statements
Wash thoroughly after handling.
Wear protective gloves.
IF ON SKIN: Wash with plenty of water/ soap.

SAFETY DATA SHEET



SUSPEND® POLYZONE®

Version 2.0 / USA
102000030997

2/10
Revision Date: 04/26/2019
Print Date: 04/27/2019

Specific treatment (see supplemental first aid instructions on this label).
If skin irritation occurs: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.

Hazards Not Otherwise Classified (HNOC)

No health hazards not otherwise classified.
No physical hazards not otherwise classified.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Deltamethrin	52918-63-5	4.75

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
Inhalation	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.
Skin contact	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
Eye contact	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Most important symptoms and effects, both acute and delayed

Symptoms To date no symptoms are known.

Indication of any immediate medical attention and special treatment needed

Treatment Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.

SAFETY DATA SHEET



SUSPEND® POLYZONE®

Version 2.0 / USA
102000030997

3/10
Revision Date: 04/26/2019
Print Date: 04/27/2019

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Carbon dioxide (CO₂), Dry chemical, Foam, Water

Unsuitable High volume water jet

Special hazards arising from the substance or mixture Dangerous gases are evolved in the event of a fire.

Advice for firefighters

Special protective equipment for firefighters Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

Further information Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Flash point No data available

Auto-ignition temperature No data available

Lower explosion limit No data available

Upper explosion limit No data available

Explosivity Not applicable

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up

Methods for cleaning up Dike area to prevent runoff. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated surface thoroughly. Decontaminate tools and equipment following cleanup.

Additional advice Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal.

Reference to other sections Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SAFETY DATA SHEET



SUSPEND® POLYZONE®

Version 2.0 / USA
102000030997

4/10
Revision Date: 04/26/2019
Print Date: 04/27/2019

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle and open container in a manner as to prevent spillage. Use only in area provided with appropriate exhaust ventilation.

Hygiene measures Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.
Remove Personal Protective Equipment (PPE) immediately after handling this product. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Deltamethrin	52918-63-5	0.01 mg/m ³ (TWA)		OES BCS*

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

Exposure controls

Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Hand protection Chemical resistant nitrile rubber gloves

Eye protection Tightly fitting safety goggles

Skin and body protection Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water.
Keep and wash PPE separately from other laundry.

SAFETY DATA SHEET



SUSPEND® POLYZONE®

Version 2.0 / USA
102000030997

5/10
Revision Date: 04/26/2019
Print Date: 04/27/2019

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	white to light beige
Physical State	suspension
Odor	characteristic
Odour Threshold	No data available
pH	<= 7.0 (100 %) (23 °C)
Vapor Pressure	No data available
Vapor Density (Air = 1)	No data available
Density	ca. 1.05 g/cm ³ (20 °C)
Evaporation rate	No data available
Boiling Point	No data available
Melting / Freezing Point	No data available
Water solubility	dispersible
Minimum Ignition Energy	Not applicable
Decomposition temperature	No data available
Partition coefficient: n-octanol/water	Not applicable
Viscosity	700 - 1,700 cps (25 °C)
Flash point	No data available
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Explosivity	Not applicable

SECTION 10: STABILITY AND REACTIVITY

Reactivity	
Thermal decomposition	No data available
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

SAFETY DATA SHEET



SUSPEND® POLYZONE®

Version 2.0 / USA
102000030997

6/10
Revision Date: 04/26/2019
Print Date: 04/27/2019

Conditions to avoid	freezing
Incompatible materials	No data available
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes Eye contact, Skin contact, Inhalation

Immediate Effects

Eye May cause eye irritation.

Skin Causes skin irritation.

Information on toxicological effects

Acute oral toxicity	LD50 (female Rat) > 5,000 mg/kg
Acute inhalation toxicity	LC50 (male/female combined Rat) > 2.08 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. Highest attainable concentration. No deaths
Acute dermal toxicity	LD50 (male/female combined Rat) > 5,000 mg/kg
Skin corrosion/irritation	Moderate skin irritation. (Rabbit)
Serious eye damage/eye irritation	Moderate eye irritation. (Rabbit)
Respiratory or skin sensitisation	Skin: Non-sensitizing. (Guinea pig)

Assessment STOT Specific target organ toxicity – repeated exposure

Deltamethrin caused neurobehavioral effects and/or neuropathological changes in animal studies. The toxic effects of Deltamethrin are related to transient hyperactivity typical for pyrethroid neurotoxicity.

Assessment mutagenicity

Deltamethrin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Deltamethrin was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

None.

NTP

None.

IARC

SAFETY DATA SHEET



SUSPEND® POLYZONE®

Version 2.0 / USA
102000030997

7/10
Revision Date: 04/26/2019
Print Date: 04/27/2019

Deltamethrin 52918-63-5 Overall evaluation: 3

OSHA

None.

Assessment toxicity to reproduction

Deltamethrin did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Deltamethrin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Deltamethrin are related to maternal toxicity.

Further information

Acute toxicity studies have been bridged from a similar formulation(s).
The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) 0.15 µg/l Exposure time: 96 h The value mentioned relates to the active ingredient deltamethrin.
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 0.0131 µg/l Exposure time: 48 h The value mentioned relates to the active ingredient deltamethrin.
Toxicity to aquatic plants	EC50 (Algae) > 9.1 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient deltamethrin.
Biodegradability	Deltamethrin: Not rapidly biodegradable
Koc	Deltamethrin: Koc: 10240000
Bioaccumulation	Deltamethrin: Bioconcentration factor (BCF) 1,400 Does not bioaccumulate.
Mobility in soil	Deltamethrin: Immobile in soil
Environmental precautions	Do not allow to get into surface water, drains and ground water. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Do not apply when weather conditions favor runoff or drift. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area. Apply this product as specified on the label.

SAFETY DATA SHEET



SUSPEND® POLYZONE®

Version 2.0 / USA
102000030997

8/10
Revision Date: 04/26/2019
Print Date: 04/27/2019

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product	Do not contaminate water, food, or feed by disposal. Dispose in accordance with all local, state/provincial and federal regulations. Follow advice on product label and/or leaflet.
Contaminated packaging	Do not re-use empty containers. Triple rinse containers. Puncture container to avoid re-use. Consult state and local regulations regarding the proper disposal of container. Follow advice on product label and/or leaflet.
RCRA Information	Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

SECTION 14: TRANSPORT INFORMATION

49CFR	Not dangerous goods / not hazardous material
IMDG	
UN number	3082
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DELTAMETHRIN SOLUTION)
IATA	
UN number	3082
Class	9
Packaging group	III
Environm. Hazardous Mark	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DELTAMETHRIN SOLUTION)

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

SAFETY DATA SHEET



SUSPEND® POLYZONE®

Version 2.0 / USA
102000030997

9/10
Revision Date: 04/26/2019
Print Date: 04/27/2019

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 432-1514

US Federal Regulations

TSCA list

Butoxypolyethylene-/propylene glycol 9038-95-3

1,2-Propanediol 57-55-6

Glyceryl Mono - Dicaprylate 26402-26-6

Water 7732-18-5

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
Not applicable.

SARA Title III - Section 302 - Notification and Information

None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

None.

US States Regulatory Reporting

CA Prop65

This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients

1,2-Propanediol	57-55-6	MN, RI
Pyrogenic (fumed) amorphous silica	112945-52-5	CA, MN

EPA/FIFRA Information:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

Signal word: Caution!

Hazard statements: Moderate eye irritation.
Avoid contact with skin and clothing.
Contact with product may result in transient tingling and reddening of the skin.
Remove and wash contaminated clothing before re-use.
Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms

SAFETY DATA SHEET



SUSPEND® POLYZONE®

Version 2.0 / USA
102000030997

10/10
Revision Date: 04/26/2019
Print Date: 04/27/2019

49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
N.O.S.	Not otherwise specified
NTP	US. National Toxicology Program (NTP) Report on Carcinogens
OECD	Organization for Economic Co-operation and Development
TDG	Transportation of Dangerous Goods
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 1 Instability - 0 Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 1 Flammability - 1 Physical Hazard - 0 PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: The following sections have been revised: Section 8: Exposure Controls / Personal Protection. Section 12. Ecological information. Reviewed and updated for general editorial purposes.

Revision Date: 04/26/2019

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.