



# 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

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## 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



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## 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 (CO<sub>2</sub>), 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 NO<sub>x</sub>.

### 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



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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 <sup>3</sup>
		NIOSH	TWA	5 mg/m <sup>3</sup>
		OSHA	PEL/TWA	5 mg/m <sup>3</sup>

### 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.



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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



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## 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 LD<sub>50</sub> : >5,000 mg/kg-bw

Dermal, Rat LD<sub>50</sub> : > 5,000 mg/kg-bw

Inhalation, Rat LC<sub>50</sub> : > 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 LC<sub>50</sub> 5.1 µg/L, Rainbow Trout  
96-hr Acute LC<sub>50</sub> 16.0 µg/L, Sheepshead Minnow



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Toxicity to Aquatic Invertebrates: 48-hr Acute EC<sub>50</sub> 11.6 µg/L, Water Flea (*Daphnia magna*)  
48-hr LC<sub>50</sub> 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<sub>ow</sub>: 5.90 and 4.30

Mobility in Soil: Immobile in soil

Partition Coefficient, K<sub>oc</sub>: 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



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## 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**

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