

MATERIAL SAFETY DATA SHEET

Phoenix Environmental Care, LLC
P.O. Box 370
Valdosta, GA 31603-0370

General Information No.
In Case of Emergency, Call
PROSAR:

229-245-8845
888-875-1724

I. PRODUCT IDENTIFICATION

Product Name: Merlin
Active Ingredient: Abamectin (2.0%)
Chemical Name: Avermectin B₁ (a mixture of avermectins containing >80% avermectin B_{1a} and <20% avermectin B_{1b})

II. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS Number</u>	<u>% by Wt.</u>	ACGIH	OSHA
			<u>TLV (mg/m³)</u>	<u>PEL (mg/m³)</u>
Abamectin		2.0	Not available	Not available
Avermectin B _{1a}	65195-55-3			
Avermectin B _{1b}	65195-56-4			

III. HAZARDS IDENTIFICATION

As defined by OSHA Hazard Communication Standard (29 CFR 1910.1200).

EMERGENCY OVERVIEW

Keep out of the reach of children.

Warning. Causes substantial but temporary eye injury. Harmful if swallowed. Harmful if inhaled. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wear protective eyewear (goggles or faceshield). Do not get in eyes, on skin, or on clothing. Do not breathe spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse.

POTENTIAL HEALTH EFFECTS

This product contains a chemical (N-methyl-pyrrolidone) known to the State of California to cause birth defects or other reproductive harm.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and wildlife. DO NOT apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high-water mark. DO NOT contaminate water when disposing of equipment washwater or rinsate.

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.

IV. FIRST AID MEASURES

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 Swallowed:	Call a poison control center or doctor immediately for treatment advice. Have affected person sip a glass of water if able to swallow. Do not induce vomiting unless told by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
If Inhaled:	Move person to fresh air. If person is not breathing, call 911 or an ambulance, and then give artificial respiration, preferably mouth-to-mouth if possible. 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.

Notes to physician:

Recommendations for Medical Treatment for Merlin Acute Toxicity:

Early signs of intoxication include mydriasis (dilated pupils), ataxia (unsteadiness) and muscle tremors. Toxicity following accidental ingestion of the concentrate can be minimized by inducing vomiting within one-half hour of exposure.

If toxicity from exposure has progressed to cause severe vomiting, the extent or resultant fluid and electrolyte imbalance should be gauged. Appropriate supportive parenteral fluid replacement therapy should be given, along with other required supportive measures (such as maintenance of blood pressure levels) as indicated by clinical signs, symptoms and measurements.

In severe cases, observations should continue for at least several days until clinical condition is stable and normal. Since avermectin is believed to enhance GABA activity in animals, it is probably wise to avoid drugs that enhance GABA activity (barbiturates, benzodiazepines, valproic acid) in patients with potentially toxic avermectin exposure.

V. FIRE FIGHTING MEASURES

Flash Point (method):	> 61°C (closed cup).
Flammable limits (LFL-UFL):	LFL: Not available. UFL: Not available.
Fire and Explosion Hazards:	Combustible liquid. When heated above the flash point, this product releases vapors which, when mixed with air can burn or be explosive.

Extinguishing Media:	Foam; dry chemical or CO ₂ to extinguish fire.
Fire Fighting Instructions:	Use as little water as possible. Dike area of fire to prevent material run-off. Decontaminate emergency personnel with soap and water before leaving the fire area. Avoid breathing dusts, vapors, and fumes from burning materials. Control run-off water.
Fire Fighting Equipment:	Wear full protective clothing and NIOSH-approved self contained breathing apparatus with full-face piece operated in the pressure demand or other positive pressure mode

VI. ACCIDENTAL RELEASE MEASURES

Small Spill:	Absorb small spills on sand, vermiculite or other inert absorbent. Place contaminated material in an appropriate container for disposal.
Large Spill:	Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify, and scrape up for disposal. After removal, clean the area with detergent and water to neutralize. Do not allow spilled materials and runoff to come into contact with soil and surface waterways.

VII. HANDLING AND STORAGE

KEEP OUT OF THE REACH OF CHILDREN!

Handling:	Harmful if swallowed or absorbed through skin. Avoid contact with eyes, skin or clothing. Do not breathe spray mist. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Follow manufacturer's instructions for cleaning/maintaining Personal Protective Equipment (PPE). If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. 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.
Storage:	Do not use, pour, or store near heat or open flame. Store in the original container and keep closed. Store in a cool, dry and well-ventilated place. Keep away from food, feed and drinking water.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Refer to Section III of this MSDS.

Eyes/Face:	To protect against accidental eye contact, goggles/face-shield should be worn.
Skin Protection:	Rubber gloves should be worn. Wash thoroughly with soap and water after handling.

Respiratory Protection: Ensure good ventilation. For maximum protection, wear a supplied air, full-face piece respirator, air lined hood, or full-face piece self-contained breathing apparatus.

Personal Protective Equipment (PPE):

Applicators and all other handlers must wear:

Coveralls over short-sleeved shirt and short pants;

Chemical-resistant gloves - EPA chemical resistance category B (e.g. barrier laminate or butyl rubber >14 mils);

Chemical resistant footwear plus socks;

Protective eye wear;

Chemical resistant headgear for overhead exposure;

Chemical resistant apron when mixing, loading, or cleaning equipment;

For shadehouse and greenhouse use, applicators and other handlers must wear a dust/mist filtering respirator (MSHA/NIOSH approval prefix number TC-21C).

User Safety Requirements:

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

IX. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Pale, amber liquid
Odor:	Slightly pungent odor
pH:	3-4
Density:	1.01 g/mL

X. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	None.
Incompatibility:	None known.
Hazardous Decomposition Products:	Thermal decomposition may emit toxic fumes of carbon monoxide and carbon dioxide.
Hazardous Polymerization:	Will not occur.

XI. TOXICOLOGICAL INFORMATION

Acute Toxicity:	
Oral LD ₅₀ (rat):	1750 mg/Kg
Dermal LD ₅₀ (rabbit):	>5050 mg/Kg
Inhalation LC ₅₀ (rat):	2.56 mg/L
Skin Irritation (rabbit):	Non-irritating
Eye irritation (rabbit):	Severe
Skin Sensitization (guinea pig):	Non-sensitizer

Air Transport:
Proper Shipping Name: Pesticides, Liquid, Toxic, N.O.S. (Abamectin)
Hazard Class or Division: 6.1
Identification No.: UN 2902
Packing Group: PG III
Packing Instructions: Passenger Pl 611 – Max. inner pkg. 2.5 Liters, single pkg. 60 Liters
Cargo: Pl 618 – Max. inner pkg. 5 Liters, single pkg. 220 Liters

B/L Freight Classification: Insecticides, NOI, Poison

Comments:

Water Transport – International:
Proper Shipping Name: Pesticides, Liquid, Toxic, N.O.S. (Abamectin), Marine Pollutant
Hazard Class or Division: 6.1
Identification No.: UN 2902
Packing Group: PG III
IMDG EMS #: F-A-,S-A

IMO Classification:

Proper Shipping Name: Pesticides, Liquid, Toxic, N.O.S. (Abamectin)
Hazard Class or Division: 6.1
Identification No.: UN 2902
Packing Group: PG III
Marine Pollutant

IATA Classification:

Proper Shipping Name: Pesticides, Liquid, Toxic, N.O.S. (Abamectin)
Hazard Class or Division: 6.1
Identification No.: UN 2902
Packing Group: PG III

ADR Classification:

Proper Shipping Name: Pesticides, Liquid, Toxic, N.O.S. (Abamectin)
Hazard Class or Division: 6.1
Identification No.: UN 2902
Packing Group: PG III

XV. REGULATORY INFORMATION

EPCRA SARA Title III Classification

Section 311/312 Hazard Classes:

- Acute Health Hazard
- Chronic Health Hazard
- Fire Hazard

California Proposition 65:	Not applicable
CERCLA/SARA 302 Reportable Quantity (RQ):	None
RCRA Hazardous Waste Classification (40 CFR 261):	Not applicable
TSCA Status:	Exempt from TSCA, subject to FIFRA

XVI. OTHER INFORMATION

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. It is impossible to eliminate all risks inherently associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather, presence of other materials or other influencing factors in the use of the product, which are beyond the control of Phoenix Environmental Care, LLC or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Phoenix Environmental Care, LLC and Seller harmless for any claims relating to such factors.

Phoenix Environmental Care, LLC 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. 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 Seller or Phoenix Environmental Care, LLC, and Buyer and User assume the risk of any such use. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, PHOENIX ENVIRONMENTAL CARE, LLC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.**

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