1. PRODUCT IDENTIFICATION

Product Name: ABAMECTIN 1.8% EC MFG No.:

Active Ingredient (%): Abamectin (1.8%) CAS No.: 71751-41-2

Chemical Name: A mixture of avermectins containing primarily Avermectin B1a and Avermectin B1b

Chemical Class: Botanical

2. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA carcinogen
Abamectin (1.8%)	Not Established	Not Established	Not Established	No

3. HAZARDS IDENTIFICATION

Symptoms of Acute Exposure

Causes eye and skin irritation. Harmful if swallowed or absorbed through the skin. Allergic skin reactions are possible.

Hazardous Decomposition Products

Can decompose at high temperatures forming toxic gases.

Physical Properties

Appearance: Yellow liquid

Odor: Light special smell

Unusual Fire, Explosion and Reactivity Hazards

Combustible liquid. Can release vapors that form explosive mixtures at temperatures at or above the flash point. Heavy vapors can flow along surfaces to distant ignition sources and flash back. During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

4. FIRST AID MEASURES

Ingestion: Doctor immediately 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. Do not give anything by mouth to an unconscious person.

Eye Contact: 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.

Skin Contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes.

Inhalation: Move person to fresh air. If person is not breathing, call an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Doctor for further treatment advice.

Notes to Physician

Persons suffering a temporary allergic reaction may respond to treatment with antihistamines or steroid creams and/or systemic steroids.

Early signs of intoxication include dilation of pupils, muscular incoordination and muscular tremors. Toxicity following accidental ingestion of abamectin can be minimized by early administration of chemical

adsorbents (e.g. activated charcoal). If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged. Appropriate supportive parental fluid replacement therapy should be given, along with other required supportive measures (such as maintenance of blood pressure levels and proper respiratory functionality) 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 abamectin 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 abamectin exposure.

5. FIRE FIGHTING MEASURES

Fire and Explosion

Flammable Limits(% in Air):	Lower:% Not Applicable	Upper: % Not Applicable
Autoignition Temperature:	Not Available	
Flammability:	Combustible liquid	

Unusual Fire, Explosion and Reactivity Hazards

Combustible liquid. Can release vapors that form explosive mixtures at temperatures at or above the flash point. Heavy vapors can flow along surfaces to distant ignition sources and flash back.

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

In Case of Fire

Use appropriate extinguishing media for combustibles in the area. 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. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

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 outlined in Section 8. 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

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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

Occupational exposure level:

100mg/m3 (for the solvent xylene as the active ingredient avermectin is not harmful)

9. PHYSICAL AND CHEMICAL PROPERTIES

Formulation

Appearance:	Yellow liquid
Odor:	Light special smell
Specific gravity	About 0.92 g/cm³ (68 - 77° F [20 -25° C])
Corrosiveness:	Corroding rubber
PH:	4.5-7.0

10. STABILITY AND REACTIVITY

Stability:	Stable under normal use and storage conditions.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	None known.
Materials to Avoid:	None known.
Hazardous Decomposition Products:	Can decompose at high temperatures forming toxic gases.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Formulation)

Oral : Oral (LD50 Rat) : ♀384.2~747.5 mg/kg body weight ♂469.1~807.8

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. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Skin Contact: Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

Dermal: Dermal (LD50 Rat) ＞5000 mg/kg body weight

Eye Contact: Moderately Irritating (Rabbit)

Skin Sensitization: Slightly Irritating (Rabbit)

Subchronic Toxicity Studies (Abamectin)

90 days feeding dog no effect level: 0.50 mg/kg body weigh/day

Carcinogenicity and chronic study (Abamectin)

26 months feeding rat no effect level: 1.5 mg/kg/day

Reproductive/Developmental Effects

Species	Maternotoxicity		Developmental		Fetotoxicity	
	NEL	MEL	NEL	MEL	NEL	MEL
Rat	1.6	2.0	1.6	2.0	1.6	Notoxicity
Mouse	0.05	0.075	0.2	0.4	0.2	0.4
Rabbit	1.0	2.0	1.0	2.0	1.0	2.0

NEL= no effect level (mg/kg/day)

MEL= minimal effect level (mg/kg/day)

12. ECOLOGICAL INFORMATION

Summary of Effects

Abamectin: Highly toxic to fish, invertebrates, birds and bees. Not bioconcentrateable in fish.

Eco-Acute Toxicity

Abamectin: Bees LC50/EC50 0.002 μg/bee

Invertebrates (Water Flea) LC50/EC50 0.00037 ppm

Fish (Trout) LC50/EC50 0.0036 ppm

Fish (Bluegill) LC50/EC50 0.0096 ppm

Birds (8-day dietary - Bobwhite Quail) LC50/EC50 3,102 ppm

Birds (8-day dietary - Mallard Duck) LC50/EC50 383 ppm

Environmental Fate

Abamectin: The information presented here is for the active ingredient, abamectin. Low bioaccumulation potential. Not persistent in soil. Stable in water. Low mobility in soil. Mixes in water (after24 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

Proper Shipping Name: Pesticides, Flammable liquid, Toxic, N.O.S., Marine Pollutant
Identification Number: UN3082
Packing Group: PG III
Insecticides, Poison

15. REGULATORY INFORMATION

OSHA Status: not listed
TSCA Status: not listed

16. OTHER INFORMATION

Manufacture information: