

## MATERIAL SAFETY DATA SHEET

### SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**COMPANY ADDRESS:**

RAINBOW TREECARE SCIENTIFIC ADVANCEMENTS  
MINNEAPOLIS, MN 55426

**EMERGENCY TELEPHONE NUMBERS:**

(800) 424-9300 (CHEMTREC, transportation and spills)

**PRODUCT NAME** : ARACINATE™ TREE INJECTION  
**CHEMICAL NAME** : A mixture of avermectins containing primarily Avermectin B1a and Avermectin B1b  
**ACTIVE INGREDIENT** : Abamectin (2.0%)  
**CHEMICAL FAMILY** : Glycoside Insecticide  
**PRODUCT CODE** : EPA Reg. No. 74779-1  
**CAS NUMBER** : 65195-56-4 & 65195-55-3  
**EPA SIGNAL WORD** : Warning

### SECTION 2 - COMPOSITION, INFORMATION OF INGREDIENTS

COMPONENTS	OSHA PEL	ACIGH TLV	OTHER	NTP/IARC/OSHA CARCINOGEN
Mineral Oil	5 mg/m <sup>3</sup>	5 mg/m <sup>3</sup> (mist); 10 mg/m <sup>3</sup> (STEL)	5 mg/m <sup>3</sup> (mist); 10 mg/m <sup>3</sup> (STEL)	No
Butylated Hydroxytoluene (BHT)	Not Established	2 mg/m <sup>3</sup> TWA (inhalable)	10 mg/m <sup>3</sup> TWA	IARC Group 3
n-Methylpyrrolidone (<= 30%)	Not Established	Not Established	10 ppm TWA	No
Abamectin (2.0%)	Not Established	Not Established	0.02 mg/m <sup>3</sup> TWA	No

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

### SECTION 3 - HAZARDS IDENTIFICATION SUMMARY

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

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

**PHYSICAL HAZARDS:** Can decompose at high temperatures forming toxic gases.

**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.

**ENVIRONMENTAL HAZARDS:** Highly toxic to fish, invertebrates, bird and bees. Not bioconcentrateable in fish.

#### **SECTION 4 - FIRST AID MEASURES**

**IF SWALLOWED:** Call physician or Poison Control Center immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so after calling a poison control center or doctor. 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 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**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 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.

**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 absorbents (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, observation 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.

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**

**FLASHPOINT (method):** > 161<sup>o</sup> F

**FLAMMABLE LIMITS (% in Air):** Lower: % Not Applicable      Upper: % Not Applicable

**FIRE AND EXPLOSION HAZARD:** 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.

**FIRE FIGHTING INSTRUCTIONS:** 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.

**FIRE FIGHTING EQUIPMENT:** Wear full protective clothing and self-contained breathing apparatus with full facepiece.

#### **SECTION 6 - ACCIDENTAL RELEASE MEASURES**

Clean up spills immediately, observing precautions in Section 8 of this document. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

**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 disposal.

This material should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of

water.

## **SECTION 7 - HANDLING AND STORAGE**

KEEP OUT OF REACH OF CHILDREN!

**HANDLING:** Use only in a well-ventilated area.

**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, 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.

## **SECTION 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.**

**EXPOSURE LIMITS (8 HOUR TWA):** (Refer to Section 3)

**ENGINEERING CONTROLS:** Proper ventilation is required when handling or using this product to keep exposure to airborne contaminants below the exposure limit. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**PERSONAL PROTECTIVE EQUIPMENT:**

**EYE PROTECTION** – Use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**CLOTHING** – Wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

**GLOVES** - Chemical-resistant gloves, such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyvinyl chloride (PVC), viton.

**RESPIRATOR** – A combination particulate/organic vapor respirator may be necessary until effective engineering controls are installed to comply with occupational exposure limits. Use a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with an HE filter.

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

Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under circumstances where air-purifying respirators may not provide adequate protection.

**USER SAFETY RECOMMENDATIONS:**

1. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
2. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
3. 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.

## **SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

**PHYSICAL DESCRIPTION:** Yellow to red brown liquid

**ODOR:** Not determined.

**BOILING POINT:** Not Available

**SPECIFIC GRAVITY/DENSITY:** 0.96 g/cm<sup>3</sup> (68-78°F [20-25°C])

**pH:** 2.6-3.6 (1% in deionized H<sub>2</sub>O)

**VAPOR PRESSURE:** 7.5 x 10<sup>(-8)</sup> mmHg @ 77°F (25°C)

**WATER SOLUBILITY:** 0.007 – 0.01 mg/l @ 68°F (20°C)

### **SECTION 10 - STABILITY AND REACTIVITY**

**CHEMICAL STABILITY:** Stable under normal use and storage conditions.

**CONDITIONS TO AVOID:** None known.

**INCOMPATIBILITY WITH OTHER MATERIALS:** None known.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Can decompose at high temperatures forming toxic gas.

**HAZARDOUS POLYMERIZATION:** Product will not undergo polymerization.

### **SECTION 11 - TOXICOLOGICAL INFORMATION**

#### **ACUTE TOXICITY:**

Oral LD <sub>50</sub> (rat)	- ~ 300 mg/Kg body weight (Moderately Toxic)
Dermal LD <sub>50</sub> (rabbit)	- > 1,800 mg/Kg body weight (Moderately Toxic)
Inhalation LC <sub>50</sub> (rat)	- > 3.5 mg/l air – 4 hours (Practically Non-Toxic)
Eye Irritation (rabbit)	- Moderately Irritating
Skin Irritation (rabbit)	- Moderately Irritating
Sensitization (guinea pig)	- Sensitizing

#### **CARCINOGEN STATUS:**

OSHA -	Not listed.
NTP -	Not listed.
IARC -	Not listed.

#### **TOXICITY OF AMBAMECTIN:**

**Reproductive/Developmental Effects:** Reproductive toxin in animal studies only at doses acutely toxic to the maternal animal.

**Chronic/Subchronic Toxicity Studies:** Central nervous system effects in animals.

**Carcinogenicity:** None Observed.

#### **TOXICITY OF OTHER COMPONENTS:**

**Butylated Hydroxytoluene (BHT):** Listed as an IARC (Group 3) carcinogen not classifiable as human (no data available) with limited animal evidence. Exposure may result in irritation to eyes, skin and respiratory tract. Ingestion may cause diarrhea, respiratory depression, tremors, and chronic pulmonary edema or congestion and hemorrhage.

**Mineral Oil:** May cause respiratory irritation when inhaled as a mist.

**n-Methylpyrrolidone (<= 30%):** May cause respiratory tract irritation. Repeated or prolonged exposure may cause drying and cracking of the skin.

#### **TARGET ORGANS:**

##### **Active Ingredients**

Abamectin: Skin, eye, CNS

##### **Inert Ingredients**

Butylated Hydroxytoluene (BHT): Eye, skin, respiratory tract

Mineral Oil: Respiratory tract

n-Methylpyrrolidone: Eye, skin

### **SECTION 12 - ECOLOGICAL INFORMATION**

**ENVIRONMENTAL SUMMARY:** Abamectin is highly toxic to fish, invertebrates, birds, and bees. Not bioconcentrateable in fish.

**ECO-ACUTE TOXICITY OF ABAMECTIN:**

Bees LC50/EC50 0.002 ug/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

**ECO-CHRONIC TOXICITY OF ABAMECTIN:** Not Available

**ENVIRONMENTAL FATE OF ABAMECTIN:** Low bioaccumulation potential. Not persistent in soil. Stable in water. Low mobility in water (after 24 hours).

### **SECTION 13 - DISPOSAL CONSIDERATIONS**

**WASTE:** Insecticide wastes are toxic. Dispose of in accordance with applicable Federal, state and local laws and regulations.

**CONTAINER:** Do not reuse product containers. Dispose of product containers, waster containers, and residues according to local, state, and federal health and environmental regulations.

### **SECTION 14 - TRANSPORT INFORMATION**

<b>DOT SHIPPING DESCRIPTION:</b>	Pesticides, Liquid, Toxic, N.O.S. (Abamectin Solution), Marine Pollutant
<b>DOT HAZARD CLASS:</b>	Division 6.1
<b>UN NUMBER:</b>	2902
<b>DOT PACKING GROUP:</b>	PG III
<b>DOT PRIMARY/SECONDARY LABEL:</b>	N/A
<b>DOT PRIMARY/SECONDARY PLACARD:</b>	N/A
<b>DOT EMERGENCY RESPONSE GUIDE #:</b>	N/A
<b>PACKING INSTRUCTIONS (AIR):</b>	Passenger: PI611 – Max. inner pkg. 2.5 liters, single pkg. 60 liters Cargo: PI 618 – Max. inner pkg. 5 liters, single pkg. 220 liters
<b>B/L FREIGHT CLASSIFICATION:</b>	Insecticides, NOI, Poison
<b>IMDG EMS#:</b>	F-A, S-A

### **SECTION 15 - REGULATORY INFORMATION**

**CERCLA SARA 302 REPORTABLE QUANTITY:** - None

**EPCRA SARA TITLE III CLASSIFICATION:**

311/312 Hazard Categories

- Acute Health Hazard, Chronic Health Hazard, Fire Hazard

313 Toxic Chemicals

- n-Methylpyrrolidone (<= 30%) (CAS No. 872-50-4)

**TSCA STATUS:**

- Exempt from TSCA, subject to FIFRA

**SECTION 16 - OTHER INFORMATION****NFPA Hazard Ratings:** Health 2, Flammability 2, Instability 0 (0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Extreme)**HMIS Hazard Ratings:** Health 2, Flammability 2, Reactivity 0 (0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Extreme)

For non-emergency questions about this product call: 1-877-ARBORIST

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