1.0 IDENTIFICATION

Product Name: TreeAzin® Systemic Insecticide

Synonyms: None

Product Use: TreeAzin® Systemic Insecticide is to be injected into trees to control insect pests using the EcoJect® System, a medium pressure tree injection tool.

Manufacturer: Lallemand Inc./BioForest
59 Industrial Park Crescent, Unit 1
Sault Ste. Marie ON
P6B 5P3 Canada

Phone: 705-942-5824

In Case of Emergency Call:

703-527-3887 CHEMTREC INTERNATIONAL (Canada)
800-424-9300 CHEMTREC (USA)
(24 Hours/Day, 7 Days/Week)

2.0 HAZARD(S) IDENTIFICATION

<table>
<thead>
<tr>
<th>GHS Classification</th>
<th>Signal Word</th>
<th>Hazard Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable Liquid (Category 2)</td>
<td>Danger</td>
<td>H225 Highly flammable liquid and vapour</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation (Category 2A Irritant)</td>
<td>Warning</td>
<td>H319 Causes serious eye irritation</td>
</tr>
<tr>
<td>Acute Toxicity</td>
<td>n/a</td>
<td>H303 May be harmful if swallowed (oral)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>H313 May be harmful in contact with skin (dermal)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>H333 May be harmful if inhaled (gas, vapour, dust, mist)</td>
</tr>
</tbody>
</table>
Pictograms:

Precautionary Statements:

- P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P233: Keep container tightly closed.
- P243: Take precautionary measures against static discharge.
- P264: Wash hands thoroughly after handling
- P280: Wear protective gloves and eye protection.
- P305+P351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P370 + P378: In case of fire: Use carbon dioxide or dry chemical material to extinguish small fires, use alcohol-type or all-purpose-type foams for large fires. Do not use water.
- P312: Call a Poison Centre/doctor if you feel unwell.
- P337 + P313: If eye irritation persists: Get medical advice/attention.
- P403 + P235: Store in a well-ventilated place. Keep cool.
- P501: Dispose of content/containers in accordance with local/regional/national regulations.

Potential Acute Health Effects:

- Inhalation: Causes respiratory tract irritation.
- Ingestion: May be harmful if swallowed.
- Skin: No adverse effects with normal skin.
- Eyes: Causes eye irritation.

3.0 COMPOSITION/INFORMATION ON INGREDIENTS

Active Ingredient: Azadirachtin (5%)

<table>
<thead>
<tr>
<th>Components</th>
<th>% w/w</th>
<th>CAS #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azadirachtin A</td>
<td>5</td>
<td>11141-17-6</td>
</tr>
<tr>
<td>Azadirachtin B</td>
<td></td>
<td>95507-03-2</td>
</tr>
<tr>
<td>Proprietary solvent(s), surfactant and inactive compounds</td>
<td>Remainder</td>
<td>Proprietary surfactant (PMRA List 4B) (cleared for food and nonfood use according to the U.S. code of Federal Regulations, Title 4, Part 180)</td>
</tr>
</tbody>
</table>
4.0 FIRST-AID MEASURES

Skin: Flush contaminated area with water for at least 20 minutes. Remove contaminated clothing under running water. Completely decontaminate clothing before re-use, or discard. If irritation occurs, seek medical attention.

Eyes: Immediately flush eyes with water for at least 20 minutes, holding the eyelids open. Seek medical attention immediately.

Inhalation: Remove victim to fresh air. Artificial respiration should be given if breathing has stopped and cardiopulmonary resuscitation if heart has stopped. Oxygen may be given if necessary. Seek medical attention immediately.

Ingestion: Never give anything by mouth if victim is rapidly losing consciousness or is unconscious or convulsing. DO NOT INDUCE VOMITING. Have victim drink about 250 ml (8fl. oz.) of water to dilute material in stomach. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Seek medical attention immediately.

5.0 FIRE-FIGHTING MEASURES

Extinguishing Media: Apply all-purpose-type foams by manufacturers' recommended techniques for large fires. Use carbon dioxide or dry chemical media for small fires. Water is generally unsuitable and may help to spread the fire.

Firefighting Procedures: Use water spray to cool fire-exposed containers and structures. Use water spray to disperse vapours; reignition is possible. Use self-contained breathing apparatus and protective clothing.

Specific Hazards: Vapours from this product may travel or be moved by air currents and ignited by pilot lights, other flames, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from handling point.
6.0 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: See Section 8.0.

Environmental Precautions: Contain spilled material. Prevent spillage from entering drains.

Methods and Material for Containment and Cleaning Up: Spill should be collected in suitable containers or absorbed on a suitable absorbent material for subsequent disposal. Provide adequate ventilation and protective equipment. Remove sources of heat, sparks or flames. Waste material should be disposed of in an approved incinerator or in a designated landfill site, in compliance with all federal, provincial, state and local government regulations.

7.0 HANDLING AND STORAGE

Precautions for Safe Handling: Keep away from heat, sparks and flames. Keep container closed when not in use. Use with adequate ventilation. Avoid breathing vapours. Avoid contact with eyes and skin. Wash exposed skin thoroughly after handling. Take precautions to prevent static electricity build-up when transferring contents.

Conditions for Safe Storage Including any Incompatibilities: Keep in original container until use. Check any plastics for compatibility. Store in a cool, dry place, away from direct sunlight. To prevent contamination, store this product away from food or feed. Keep container tightly sealed when not in use. Do not store below 5 degrees Celsius or above 25 degrees Celsius. Shake well before using. Keep away from heat, sparks and flames. Keep container closed when not in use. Good personal hygiene practices are suggested, such as abstaining from eating, drinking and smoking in the workplace.
8.0 EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters:

<table>
<thead>
<tr>
<th>Component</th>
<th>Exposure Limit</th>
<th>Basis</th>
<th>Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Solvent(s)</td>
<td>1000 ppm 1900 mg/m³</td>
<td>REL</td>
<td>NIOSH</td>
</tr>
<tr>
<td></td>
<td>1000 ppm 1900 mg/m³</td>
<td>PEL</td>
<td>OSHA</td>
</tr>
<tr>
<td></td>
<td>1000 ppm 1880 mg/m³</td>
<td>STEL</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td>3300 ppm</td>
<td>IDLH</td>
<td>OSHA</td>
</tr>
</tbody>
</table>

REL: Recommended Exposure Limit  
PEL: Permissible Exposure Limit  
STEL: Short Term Exposure Limit  
IDLH: Immediately Dangerous to Life Health

Appropriate Engineering Controls:

Ventilation: The ventilation system should be non-sparking, grounded and separate from other exhaust ventilation systems. Local ventilation is recommended when handling.

Personal Protective Equipment:

Respiratory Protection: Up to 1000 ppm, an approved organic vapour cartridge respirator can be used. For concentrations above 1000 ppm, an air-supplying respirator is recommended. The user should consult a respirator guide, such as the Canadian Standards Association's guide Z94.4-M1982.

Protective Gloves: Neoprene, butyl or natural rubber.

Eye Protection: Chemical resistant monogoggles when handling

Other Recommendations: Eye bath, safety shower and other protective equipment as required.
9.0 PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Dark yellow liquid</td>
</tr>
<tr>
<td>Odour</td>
<td>Strong, unpleasant</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>Odour threshold for solvent(s) is approximately 0.05-5100 ppm.</td>
</tr>
<tr>
<td>pH</td>
<td>4.3 @ 25°C</td>
</tr>
<tr>
<td>Freezing Point, °C</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling Point, °C at 760 mm Hg</td>
<td>75 - 80</td>
</tr>
<tr>
<td>Flash Point</td>
<td>13 - 16 °C</td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>Flammable</td>
</tr>
<tr>
<td>Upper/lower Flammability or explosive Limits (% U/V)</td>
<td>2.0 - 20.1</td>
</tr>
<tr>
<td>Vapour Pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapour Density (Air = 1)</td>
<td>1.5</td>
</tr>
<tr>
<td>Density, kg/L @ 20 °C</td>
<td>0.83 – 0.85 @ 20°C</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Slightly soluble in water</td>
</tr>
<tr>
<td>Coefficient of water/oil distribution</td>
<td>Separates from oil</td>
</tr>
<tr>
<td>Auto-ignition Temperature (°C)</td>
<td>422</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>% Volatiles by volume</td>
<td>85</td>
</tr>
</tbody>
</table>

10.0 STABILITY AND REACTIVITY

Reactivity:
Flammable

Chemical Stability:
Stable

Possibility of Hazardous Reactions:
None

Conditions to Avoid:
Static Discharge, Sources of Ignition

Incompatible Materials:
Oxidizing materials
No evidence of chemical incompatibility was reported between TreeAzin® and the following reagents: water, fire extinguisher agents (monoammonium phosphate, carbon dioxide), oxidizing agents, (hydrogen peroxide, phosphoric acid, nitric acid, chlorine bleach) and reducing agents (zinc dust).
Hazardous Decomposition Products: Burning can produce carbon monoxide and/or carbon dioxide and/or formaldehyde. Hazardous polymerization will not occur.

### 11.0 TOXICOLOGICAL INFORMATION

**Ingestion:** May cause dizziness, faintness, drowsiness, decreased awareness and responsiveness, euphoria, abdominal discomfort, nausea, vomiting, staggering gait, lack of coordination and coma.

**Skin Absorption:** No adverse effects with normal skin. However, potentially harmful amounts of material may be absorbed across markedly abraded skin when contact is sustained, particularly in children.

**Inhalation:** Inhalation of high concentrations can produce dizziness, faintness, drowsiness, nausea and vomiting. Symptoms depend on the level and duration of exposure.

**Skin Contact:** Mild irritant. Repeated or prolonged exposure may lead to dermatitis, erythema and scaling.

**Eye Contact:** Severe eye irritant. Vapours can irritate eyes. Eye damage from contact with liquid is reversible and proper treatment will result in healing within a few days. Damage is usually mild to moderate conjunctivitis, seen mainly as redness of the conjunctiva.

**Effect of Repeated Overexposure:** Long term repeated oral exposure may result in the development of progressive liver injury with fibrosis.

**Medical Conditions Aggravated by Overexposure:** Repeated exposure may exacerbate liver injury produced from other causes.

**Synergistic Materials:** Carbon tetrachloride, chloroform, bromotrichloromethane, dimethylnitrosamine, thioacetamide.
Skin Sensitization: Not a dermal sensitizer of male Guinea pigs following repeated exposures.

Acute Oral Toxicity: Single oral dose LD$_{50}$ in male and female rats $> 2000$ mg/kg

Acute Nose Inhalation: 4-hour acute inhalation in male and female rats LC$_{50}$ $> 2.070$ mg/L

Acute Dermal Irritation: No dermal irritation following a single application in rabbits

Acute Dermal Toxicity: LD$_{50}$ in male and female rabbits $> 2000$ mg/kg

Carcinogen: No
Neurotoxicity: No
Mutagenicity: No

12.0 ECOLOGICAL INFORMATION

Ecotoxicity (aquatic and terrestrial):
- Aquatic Vertebrate: LC$_{50}$ (96 hours): 13,000 mg/L, *Oncorhynchus mykiss* (Rainbow Trout)
- Terrestrial: Not available

Persistence and Degradability: Not available

Bioaccumulative Potential: Will not accumulate

Mobility in Soil: Not available

Other Adverse Effects: Not available

13.0 DISPOSAL CONSIDERATIONS

DO NOT reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Dispose of the rinsings in accordance with municipal, provincial/state, or Federal requirements.
2. Make the empty, rinsed container unsuitable for further use.
If there is no container collection site in your area, dispose of the container in accordance with municipal, provincial, state or federal requirements.

For information on disposal of unused, unwanted product, contact the manufacturer or the appropriate regulatory agency. Contact the manufacturer and the appropriate regulatory agency in case of a spill, and for clean-up of spills.

14.0 TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>UN#</th>
<th>3021</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN Proper Shipping Name:</td>
<td>Pesticide, Liquid, Flammable, Toxic, n.o.s.</td>
</tr>
<tr>
<td>Transport Hazard Class:</td>
<td>3, Flammable Liquid</td>
</tr>
<tr>
<td>Packing Group:</td>
<td>2</td>
</tr>
<tr>
<td>Subsidiary Class:</td>
<td>6.1</td>
</tr>
</tbody>
</table>

15.0 REGULATORY INFORMATION

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:

WARNING
Causes substantial but temporary eye injury

Safety, health and environmental regulations specific for the product in question.

WHMIS Classification: Flammable Liquid
Eye Irritant

16.0 OTHER INFORMATION

This SDS version (4.2) was prepared by Lallemand Inc/BioForest May 6, 2019. The original SDS was prepared by Lallemand Inc/BioForest Technologies Inc. March 12, 2008.
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