Material Safety Data Sheet
DERISOM®

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1. Product Information

   Product Name : DERISOM®
   Product Code : DERISOM®
   Family / Group : Botanical Insecticide
   Chemical Formula : Mixture
   Other Designations : Liquid formulation containing Karanj in 20000 ppm concentration

2. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Components</th>
<th>Composition (%) W/W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karanjin</td>
<td>2 %</td>
</tr>
<tr>
<td>Debitritized Karanjin oil</td>
<td>30%</td>
</tr>
<tr>
<td>n-Butanol ( Solvent)</td>
<td>31%</td>
</tr>
<tr>
<td>Butyl acetate</td>
<td>23%</td>
</tr>
<tr>
<td>Emulsifier (Polyoxyethylene (20) Sorbitan monoleate)</td>
<td>15%</td>
</tr>
</tbody>
</table>

Ingredients not precisely identified are proprietary and/or non-hazardous.

3. Hazards Identification

Emergency Overview
The product is clear dark brown liquid with a characteristic bitter odour which is intended to be used for plant protection. There is no specific antidote if this product is ingested. Treat symptomatically immediately seek medical attention.
Potential Health Effects:

Routes(s) of Entry : Eye, Skin, Oral, Inhalation
Human effects and symptoms of exposure : Causes irritation of eyes, skin or respiratory tract
Acute eye contact : Causes severe irritation
Chronic eye contact : Chronic exposure is not likely from normal use
Acute skin contact : May cause irritation
Chronic ingestion : Chronic exposure is not likely from normal use
Medical conditions generally aggravated by exposure : Not known

4. First Aid Measures

If poisoning is suspected, consult a physician immediately/ visit the nearest hospital / nearest Poison control centre. The concerned examiner should be informed the complete product name and details and amount of exposure. Describe the symptoms and follow the advice given.

First Aid for Eyes
Immediately flush eyes with water for 20 minutes. Hold the eye lids apart to rinse the entire surface of eyes and lids. No medicating agents should be applied except on the advice of physician.

First Aid for Skin
Wash skin with soap and water, including hair and under finger nails. No medicating agents should be applied except on the advice of physician. Remove contaminated clothing and footwear.

First Aid for Inhalation
Move victim from contaminated area to fresh air. Apply artificial respiration, if necessary

First Aid for Ingestion
If victim is fully conscious, immediately give large quantity of water to drink to enable dilution of ingested product. Seek medical help immediately. An unconscious person should not be given anything by mouth.
5. Fire fighting measures

Flash Point: > 145 degree Celsius
Flammability Limits: Not applicable
Autoignition temp: Not applicable
Fire Extinguishing Media: Water spray, carbon dioxide, dry chemical, foam
Special Fire-Fighting Information: Wear full protective clothing and self contained breathing apparatus. Evacuate non essential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Use of contaminated buildings, area and equipment has to be avoided until decontaminated.

Unusual Fire and Explosion Hazards: Not Flammable

6. Accidental Release Measures

Safety gear: Wear chemical safety glasses with side shields or chemical proof goggles, rubber gloves, rubber boots, long sleeved shirt, long pants, head cap, NIOSH approved dust or pesticide respirator with a dust filter.

Spills: Sweep the area keeping the dust to a minimum and place an approved chemical container. Wash the spill area with water containing a strong detergent, absorb with absorbent material. Seal the container and handle in an approved manner.

7. Handling and Storage

Storage Temperature: Room temperature (Not more than 40 degree Celsius)
Storage requirements: Store the material in a well ventilated, clean, cool and dry place out of reach of children and domestic animals. Keep away from direct sunlight.

Shelf Life: Use before expiry date printed on label
Special sensitivity: None
Handling precautions: Follow normal hygienic and housekeeping standards for agricultural products.
8. Exposure Controls/ Personal Protection

Oral Protection Requirements  : Avoid eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Always wash thoroughly after handling the product.

Eye protection equipments  : To avoid eye contact, wear safety goggles.

Skin protection requirements  : To avoid skin contact, wear rubber gloves, rubber boots, long-sleeved shirt, long pants head cap.

Respiratory / Ventilation requirements  : To avoid breathing dust, use adequate ventilation and wear a NIOSH-approved dust or pesticide respirator with a dust filter.

9. Physical and Chemical Properties

- Physical State  : Liquid
- Colour  : Dark brown
- Specific Gravity  : Specified in Certificate of analysis
- Bulk density  : Not applicable
- Odour  : Characteristic bitter odour
- Miscibility  : Largely miscible in water
- pH  : Specified in Certificate of analysis
- Stability  : Stable at normal storage conditions
- Corrosion  : Nil
- Flash point  : > 145 degree Celsius
- % Volatile volume  : Not determined
- Vapour pressure  : Not determined
- Vapour density  : Not determined
- Melting Point  : Not determined
- Boiling Point  : Not determined
- Freezing Point  : Not determined
- Evaporation Rate  : Not determined
10. Stability and Reactivity

- **Stability:** Product is stable.
- **Hazardous Polymerization:** Will not occur.
- **Hazardous Decomposition Products:** May form cyanide fumes and oxides of carbon and nitrogen if heated to decomposition.
- **Decomposition:** Easily bio-degradable.
- **Incompatibility:** Not compatible with highly alkaline substances.
- **Conditions to Avoid:** Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

<table>
<thead>
<tr>
<th>S No</th>
<th>STUDY</th>
<th>ANIMAL</th>
<th>LD50/ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Acute Oral Toxicity / Pathogenicity</td>
<td>Mouse</td>
<td>&gt;5800mg/kg B.W.</td>
</tr>
<tr>
<td>2</td>
<td>Acute Oral Toxicity / Pathogenicity</td>
<td>Rat</td>
<td>&gt;4100 mg/kg B.W.</td>
</tr>
<tr>
<td>3</td>
<td>Acute Dermal Toxicity/Pathogenicity</td>
<td>Rat</td>
<td>&gt;3160 mg/kb B.W.</td>
</tr>
<tr>
<td>4</td>
<td>Acute Inhalation Toxicity Test</td>
<td>Rat</td>
<td>&gt;5.84mg/L air</td>
</tr>
<tr>
<td>5</td>
<td>Mucous Membrane Irritation</td>
<td>Rabbit</td>
<td>No - Irritation</td>
</tr>
<tr>
<td>6</td>
<td>Primary Skin Irritation</td>
<td>Rabbit</td>
<td>Non - Irritant</td>
</tr>
<tr>
<td>7</td>
<td>Irritation to Mucous: Membrane (Eye)</td>
<td>Rabbit</td>
<td>Non - Irritant</td>
</tr>
<tr>
<td>8</td>
<td>Toxicity to fresh water fish</td>
<td>Fish</td>
<td>&gt;2.50mg/L</td>
</tr>
<tr>
<td>9</td>
<td>Toxicity to Honey Bees</td>
<td>Honey Bees</td>
<td>&gt;0.05 ppm</td>
</tr>
<tr>
<td>10</td>
<td>Skin Sensitization Test</td>
<td>Guinea Pigs</td>
<td>Non-Sensitizer</td>
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</table>

*B.W – Body weight*
12. Ecological Information

- Totally bio-degradable in nature
- Do not apply on water bodies as it maybe toxic to aquatic life.
- The product contains non-pathogenic, non-hazardous and non-toxic, naturally occurring constituents.

13. Disposal Considerations

Do not reuse product packing materials and residues. Dispose the product packing materials and residues according to local state and federal health and environmental regulations.

Destroy used containers and bury them 18 inches below the soil in non-crop land away from habitation and underground water course.

Dispose empty containers surplus material and washings from spray equipments in a safe manner so as to prevent environmental or water pollution, or contamination of food and animal feed.

Never use the empty containers for storing food or water

14. Transportation Information

- Transportation Data: Not Flammable
- Hazard Class: Not applicable
- ID NO: Not applicable

15. Regulatory Information

TSCA: All components of this product are listed on TSCA inventory, with no special reporting regulations
CERCLA Reportable Quantity: Not applicable
SARA TITLE III Section 313: Contains no reported components
OSHA Hazard Classification: Non Hazardous
WHMIS/Controlled products regulation: This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.
Clean Air Act: This formula does not contain any hazardous air pollutants
Clean Water Act: None of the chemicals in this product are listed as hazardous, toxic or priority pollutants.
State Right-to-Know Lists: No ingredients listed on any state right-to-know lists
Exposure Limits: Ingredients listed as "no significant risk level" in California.
16. Other Information

Agri Life provides the information contained herein in good faith, in compliance with the Occupational Safety and Health Act of 1970. To the best of our knowledge, the information contained herein is accurate. However, Agri Life does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All material may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards, which exist.

This product is for agricultural use only.

<table>
<thead>
<tr>
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<tr>
<td>1. NIOSH : The National Institute for Occupational Safety and Health</td>
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<td>2. WHMS : Workplace Hazardous Materials Information</td>
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<td>3. TSCA : Toxic Substances Control Act</td>
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<td>4. CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act</td>
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<td>5. SARA : Superfund Amendments and Reauthorization Act</td>
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<td>6. RCRA : Resource Conservation and Recovery Act of USA</td>
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<td>7. MSDS : Material Safety Data Sheet</td>
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<td>8. CPR : Controlled Products Regulation</td>
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