Material Safety Data Sheet

Revision Date: October 22, 2007

1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

Product Name: BIO/TEC 922
Chemical Family: Benzoisothiazoline (BIT)
Supplier: SOUTHWEST ENGINEERS
39478 Highway 190 East
Slidell, LA 70461
Telephone: (985) 643-1117
Fax: (985) 641-4509
Emergency Number: (800) 424-9300 - Chemtrec

HMIS NFPA Hazard Ratings:
Health = 3 3 0 = Least
Fire = 1 1 1 = Slight
Reactivity = 0 0 2 = Moderate

2. HAZARDOUS INGREDIENTS

Product composition contains the following hazardous components reportable under OSHA Regulation 29 CFR 1910.1200:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>%Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dipropylene glycol</td>
<td>025265-71-8</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>007732-18-5</td>
<td></td>
</tr>
<tr>
<td>1,2-Benzisothiazolin-3-one</td>
<td>002634-33-5</td>
<td>19.0</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>000310-73-2</td>
<td>5.0</td>
</tr>
</tbody>
</table>

3. PHYSICAL DATA

Physical state: Liquid
Appearance: Transparent amber
Odor: None
Odor threshold: No data
Boiling point: ~100˚C
Decomposition temperature: No data
Vapor pressure (mm Hg at 20˚C): No data
Vapor density (air = 1): No data
Solubility in water: Miscible
Solubility in other: No data
Octanol/Water Partition Coefficient: No data
pH: 10 - 13
Specific gravity: 1.12, 25˚
Bulk density: No data
3. PHYSICAL DATA – con’t.

% volatile by volume: 15%
VOC (%): No data
Viscosity: 124 mm²/s, 20°C

4. HAZARDS IDENTIFICATION

See Section 8 for exposure guidelines and Section 11 for toxicology and ingredient specific information.

EMERGENCY OVERVIEW

CLEAR AMBER COLOUR ODORLESS LIQUID.
RESPIRATORY IRRITANT. EYE CORROSIVE.
CORROSIVE TO THE GASTROINTESTINAL TRACT.
SKIN CORROSIVE. SKIN SENSITIZER.

POTENTIAL HEALTH HAZARDS

Eye: This product is eye corrosive based on its pH.

Skin: This product is skin corrosive based on animal studies. The acute dermal toxicity of this product is greater than 1000 mg/kg. This product is not toxic by skin absorption. This product may induce skin sensitization in humans.

Inhalation: Vapours and/or aerosols of this material will probably irritate mucous membranes, eyes, nose and respiratory passages. May be fatal if inhaled.

Ingestion: This material will cause chemical burns of the mouth, pharynx, esophagus and stomach in humans if swallowed. Injury may be severe and cause death. The acute oral toxicity of this material is between 500 and 5000 mg/kg. Relative to other materials, this material is classified as slightly toxic by ingestion.

Other: 1,2-Benzisothiazolin-3-one: The biocide component can induce skin sensitization.

5. EMERGENCY & FIRST AID PROCEDURES

General First Aid Procedures

Eyes: Immediately flush the eyes with large quantities of running water for a minimum of 15 minutes. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eye and lids with water. Do not attempt to neutralize with chemical agents. Obtain medical attention as soon as possible. Oils or ointments should not be used at this time. Continue the flushing for an additional 15 minutes if a physician is not immediately available.

Skin: Remove contaminated clothing and footwear while under a safety shower. Wash off skin with plenty of soap and water. Get medical attention. Wash contaminated clothing and decontaminate footwear before reuse.
5. EMERGENCY & FIRST AID PROCEDURES – con’t.

Ingestion: DO NOT INDUCE VOMITING. Give one or two glasses of water to drink and refer to medical personnel or take direction from either a physician or a poison control center. Never give anything by mouth to an unconscious person. Poison Control Center: Call 1-800-222-1222

Inhalation: Remove victim to fresh air. If a cough or other respiratory symptoms develop consult medical personnel.

Note to Physician: Mucosal injury following ingestion of this potentially corrosive material contraindicates the induction of vomiting.

6. FIRE AND EXPLOSION HAZARD DATA

Flammable properties:
- Flash point: > 280°F (137°C)
- Upper flammability limit (UFL): No data
- Lower flammability limit (LFL): No data
- Autoignition temperature: No data

Products of combustion: Combustion products: Carbon oxides, nitrogen oxides, sulphur oxides,

Extinguishing media: Water fog, foam, carbon dioxide, dry chemical, halogenated agents.

Fire fighting instructions: Wear self-contained breathing apparatus with full facepiece and full protective clothing. If contact occurs with material or its solutions, immediately flush with water and remove contaminated clothing.

7. ACCIDENTAL RELEASE MEASURES

Spill procedures:
- Wear skin, eye and respiratory protection during cleanup.
- Contain spill.
- Soak up material with absorbent and shovel into a chemical waste container.
- Keep out of sewers and drains.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollution Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA. Do not contaminate water by cleaning of equipment or disposal of waste.
8. HANDLING AND STORAGE

Handling:
Use closed handling and dispensing systems whenever possible. When open handling and dispensing procedures must be used, precautions should be in place to ensure no skin contact will occur.
Do not create aerosols. Avoid breathing vapors or aerosols.
Prevent skin and eye contact.
Observe recommended exposure limits.
A sensitized individual should not be exposed to the product, which caused the sensitization.

Storage:
Do not store near feed, food or within the reach of children.
Keep container tightly sealed. Store in a cool, well-ventilated area away from heat, sources of ignition, direct sunlight and strong oxidizing agents, acids.
Due to potential corrosion in contact with mild steel, aluminum, copper and other metals, which may discolor product, avoid contact with these materials. Recommended storage containers are high density high molecular weight polyethylene or stainless steel.

9. SAFE HANDLING & USE INFORMATION

EXPOSURE GUIDELINES:
No ACGIH TLV or OSHA PEL is assigned to this mixture. Control of exposure to below the PEL for the ingredients may not be sufficient.
Minimize exposure in accordance with good hygiene products.

1,2-Benzisothiazolin-3-one: Southwest Engineers has adopted an Occupational Exposure Limit of 0.1 mg/m3.

Sodium hydroxide: The ACGIH STEL for sodium hydroxide is 2 mg/m3, 8-hour TWA, ceiling. The OSHA PEL for sodium hydroxide is 2 mg/m3, 8-hour TWA.

Engineering controls:
Use permitted ventilation adequate to maintain safe levels.

PROTECTIVE EQUIPMENT

Respiratory protection:
If needed, use NIOSH certified full facepiece respirator for mists.

Protective clothing:
Take all precautions to prevent skin contact. Use gloves, arm covers and apron determined to be impervious under the conditions of use. Additional protection, such as full body suit and boots, may be required depending on conditions.
Remove contaminated clothing and wash before rewearing.
Wash separately from other laundry.

Eye protection:
Chemical tight goggles and full faceshield.

Other:
Eyewash station and safety shower in work area.
10. **STABILITY & REACTIVITY DATA**

**Chemical stability:**
Stable under normal conditions.

**Conditions to avoid:**
Protect from long-term storage below -5 deg C

**Incompatibility:**
Strong oxidizing agents, reducing agents. Will show some corrosion to mild steel, aluminium, copper and other metals causing possible discolouration of product.

**Hazardous polymerization:**
Not known to occur.

**Hazardous decomposition products:**
Carbon oxides, nitrogen oxides, sulfur oxides.

11. **TOXICOLOGICAL INFORMATION**

Contact the addressee in Section 1 for product toxicology information.

**Other effects of overexposure:**
1,2-Benzisothiazolin-3-one: BIT, the biocidal active ingredient in this product, has the potential to induce human skin sensitization. However, based collectively on several patch test studies and our experience, formulations containing no more than 500 ppm BIT are unlikely to induce skin sensitization.

**Regulated carcinogen(s):**
This product contains no components present at concentrations equal to or greater than 0.1% listed by IARC, OSHA, NTP or ACGIH as a carcinogen.

12. **ECOLOGICAL INFORMATION**

**Ecotoxicity:**
- LC50/96 hours: Fish 1.3 mg/L
- EC50/96 hours: Algae 0.055mg/L

Toxic to fish and very toxic to algae. For more information refer to technical data sheets.

**Environmental fate:**
BIT is not likely to bioaccumulate; there is evidence of photodegradation in water and soil.

**Other:**
BIT is broken down in sewage treatment at concentrations < 5ppm.
13. TRANSPORTATION INFORMATION

This material is regulated by the US DOT.

Proper Shipping Name is: CORROSIVE LIQUID, N.O.S. (CONTAINS SODIUM HYDROXIDE & 1,2-BENZISOTHIAZOLIN-3-ONE)

UN ID Number is: 1760
Special Provisions: No data
Hazard Class: 8.0
  Additional Hazard Class: No data
  Additional Hazard Class: No data
Hazard Packing Group: II

DOT Hazard Information:
Explosive: No
Explosive Class: No data
Description: No data
Skin Corrosive: Yes
Metal Corrosive: Yes (See Section 7 for storage advice)
Poisonous: No

14. DISPOSAL INFORMATION

Disposal method:
BIO/TEC 922 is toxic to fish and spills must be detoxified by biological or chemical means. Aerobic sewage treatment organisms will metabolize the active ingredient in concentrations of less than 5 ppm (25 ppm BIO/TEC 922). The half life in an aerobic sewage treatment plant is about 50 minutes. The metabolites are not toxic to fish.

Spills of more than 100 kg should be detoxified by the following chemical procedure:

1. Neutralize spill by adding 3 gallons of 10% (wt./wt.) sodium bisulfite solution per pound of spilled material. The 10% solution of sodium bisulfite can be prepared by mixing 1 part of sodium metabisulfite with 9 parts of cold water and stirring for 15 minutes until dissolution is complete. The pH of the sodium bisulfite solution should be adjusted to 6.5 by adding dilute sodium hydroxide solution. Refer to the manufacturer’s MSDS for information on the hazards and proper use of sodium metabisulfite and sodium hydroxide.

2. Test for completion of the reaction by using 10013 Merckoquant Sulfite Test Strips. The reaction is complete when excess bisulfite can be detected. If bisulfite cannot be detected, add 20% of the original volume of the deactivating solution used, wait 20 minutes and repeat the test.

Detoxified waste is not a hazardous waste under RCRA.

Container disposal:
Empty container retains product residue. Observe all hazard precautions. Do not distribute, make available, furnish or reuse empty container except for storage and shipment of original product. Remove all product residue from container using appropriate solvents (e.g. triple rinsing). Then offer for recycling/reconditioning or puncture or otherwise destroy empty container before disposal.
15. REGULATORY INFORMATION

TSCA (Toxic Substances Control Act):
All ingredients are on the TSCA Chemical Substances Inventory.
This product is meant to be used as a FIFRA-regulated pesticide and is exempt from TSCA regulation when used as such. Do not use for other purposes.

SARA Title III (Emergency Planning and Community Right-To-Know Act): 313 Reportable
Ingredients: This product does not contain any chemicals subject to the reporting requirements of SARA Section 313.

Canadian Regulations:
CEPA (Canadian Environmental Protection Act): All ingredients are on the DSL (Domestic Substances List)

WHMIS Classifications:
Class E -- Corrosive material (CPR62)
Class D, Division 2B, Toxic.

16. OTHER INFORMATION

The information herein is presented in good faith and believed to be correct as of the date hereof. However, Southwest Engineers makes no representation as to the completeness and accuracy thereof. Users must make their own determination as to the suitability of the product for their purposes prior to use.

No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or of any other nature with respect to the product or to the information herein is made. Southwest Engineers shall in no event be responsible for any damages of whatsoever nature directly or indirectly resulting from the publication or use or reliance upon information contained herein.

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