


MATERIAL SAFETY DATA SHEET

(513) 860-4949

MSDS No.: IX0150
Effective Date: January 11, 2007

| SECTION I NAME | | 24 HOUR EMERGENCY ASSISTANCE | | | | | | | | | | | | | | | | | |
|-------------------|-------------------------|--|----------|---------|----------|---------|--------|---|---|---|---|---|--------|---|------|---|------------|---|--|
| Product | Lugol's Iodine Solution |  <p>CHEMTREC 800-424-9300 Day 585-226-6177</p> <p>NFPA</p> <p>HAZARD RATING</p> <table border="1"> <tr> <td>MINIMAL</td> <td>SLIGHT</td> <td>MODERATE</td> <td>SERIOUS</td> <td>SEVERE</td> </tr> <tr> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> </table> <p>HMIS *</p> <table border="1"> <tr> <td>Health</td> <td>3</td> </tr> <tr> <td>Fire</td> <td>0</td> </tr> <tr> <td>Reactivity</td> <td>1</td> </tr> </table> | MINIMAL | SLIGHT | MODERATE | SERIOUS | SEVERE | 0 | 1 | 2 | 3 | 4 | Health | 3 | Fire | 0 | Reactivity | 1 | |
| MINIMAL | SLIGHT | | MODERATE | SERIOUS | SEVERE | | | | | | | | | | | | | | |
| 0 | 1 | | 2 | 3 | 4 | | | | | | | | | | | | | | |
| Health | 3 | | | | | | | | | | | | | | | | | | |
| Fire | 0 | | | | | | | | | | | | | | | | | | |
| Reactivity | 1 | | | | | | | | | | | | | | | | | | |
| Chemical Synonyms | Iodine-Iodide Solution | | | | | | | | | | | | | | | | | | |
| Formula | Mixture. | | | | | | | | | | | | | | | | | | |
| Unit Size | up to 3.785 Lt. | | | | | | | | | | | | | | | | | | |
| C.A.S. No. | Mixture. | | | | | | | | | | | | | | | | | | |

| SECTION II INGREDIENTS OF MIXTURES | | |
|---------------------------------------|-------|-------------------|
| Principal Component(s) | % | TLV Units |
| Iodine: (CAS No. 7553-56-2) | 4.1% | STEL: C 0.1 ppm |
| Potassium iodide: (CAS No. 7681-11-0) | 6.3% | None established. |
| Water: (CAS No. 7732-18-5) | 89.6% | None established. |

WARNING! CORROSIVE! HARMFUL IF INHALED OR SWALLOWED. CAUSES BURNS TO SKIN AND EYES.

| SECTION III PHYSICAL DATA | | | |
|---------------------------|---------------------------------------|---|-------|
| Melting Point (°F) | May freeze at 0°C (32°F) | Specific Gravity (H ₂ O = 1) | 1.0 |
| Boiling Point (°F) | Approx. 100°C (212°F) | Percent Volatile by Volume (%) | 89.6% |
| Vapor Pressure (mm Hg) | 14 (water) | Evaporation Rate (Water =1) | < 1. |
| Vapor Density (Air=1) | 0.7 (water) | | |
| Solubility in Water | Complete. | | |
| Appearance & Odor | Deep-amber color liquid; iodine odor. | | |

| SECTION IV FIRE AND EXPLOSION HAZARD DATA | | | |
|---|---|-------------------------------------|-----|
| Flash Point (Method Used) | Non-flammable. | Flammable Limits in Air % by Volume | N/A |
| Extinguisher Media | Use any media suitable for extinguishing supporting fire. | | |

SPECIAL FIREFIGHTING PROCEDURES

In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective clothing. Use flooding amounts of water in early stages of fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS

When heated, emits toxic and corrosive, violet in color, fumes of iodine. Iodine is corrosive to metals and to all body tissues.

D.O.T. NON-REGULATED.

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20

| SECTION V HEALTH HAZARD DATA | IX0150 |
|--------------------------------|---|
| Threshold Limited Value | None established for this solution. (ACGIH 2001). |

Effects of Overexposure Contact as fumes or solution is intensely irritating to eyes, skin and mucous membranes. May cause delayed lung injury. **INGESTION:** Of large quantities causes abdominal pain, vomiting and diarrhea. In severe cases purging, excessive thirst and circulatory failure may develop. Target organs: None known.

Emergency and First Aid Procedures **INGESTION:** Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person. **EYES:** Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention. **SKIN:** Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention. **INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

| SECTION VI REACTIVITY DATA | | | | | |
|----------------------------|--|----------|--|--------|---|
| Stability | <table border="1"> <tr> <td>Unstable</td> <td></td> </tr> <tr> <td>Stable</td> <td>X</td> </tr> </table> | Unstable | | Stable | X |
| Unstable | | | | | |
| Stable | X | | | | |
| Conditions to Avoid | Excessive temperature or heat. | | | | |

Incompatibility (Materials to Avoid) Contact of gaseous ammonia or its solutions with free iodine should be avoided to prevent the formation of the explosive "nitrogen iodide". Acetaldehyde, Sodium azide, Sodium hydride.

Hazardous Decomposition Products Free iodine.

| Hazardous Polymerization | | Conditions to Avoid |
|--------------------------|----------------|---------------------|
| May Occur | Will Not Occur | Not applicable. |
| | X | |

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled Absorb spill in vermiculite, sand, earth, paper towel and place in a suitable container for disposal. Wash floor or spill area with a 5-10% Sodium thiosulfate solution.

Waste Disposal Method Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only.

Work in a ventilation hood and wearing proper safety equipment, collect waste iodine in a large beaker. Cover with a large volume of water. Slowly add, while stirring soda ash or sodium thiosulfate till all of the iodine has been dissolved and solution is colorless. Flush to sewer with copious amounts of water.

| SECTION VIII SPECIAL PROTECTION INFORMATION | | | | | |
|--|---|--------------|-----------------------|--------------------------|--|
| Respiration Protection (Specify Type) | None should be needed in normal laboratory handling at room temperature. If needed, work in a ventilation hood. | | | | |
| Ventilation | Local Exhaust | Recommended. | Special | No. | |
| | Mechanical (General) | Recommended. | Other | No. | |
| Protective Gloves | Rubber. | | Eye Protection | Chemical safety goggles. | |
| Other Protective Equipment | Faceshield, mock, apron, eye wash station, ventilation hood, proper gloves. | | | | |

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing Store in a cool, dry, well-ventilated area. Remove all contaminated clothing and shoes. Wash before reuse. Wash thoroughly after handling.

Keep container tightly closed when not in use.

Other Precautions Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Avoid contact with skin, eyes and mucous membranes. Contact with skin will leave yellow iodine stain.

| | | | |
|-----------------|---------------|---------------------------|---------------------------------|
| Revision No. 12 | Date 01/11/07 | Approved James A. Bertsch | Chemical Safety Coordinator JAB |
|-----------------|---------------|---------------------------|---------------------------------|

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. * Hazardous Materials Industrial Standards. Printed on recycled paper.