### HEALTH HAZARD DATA

**TIME WEIGHTED AVERAGE EXPOSURE LIMIT**


**SYMPTOMS OF EXPOSURE**

Corrosive and irritating to the upper and lower respiratory tracts, skin and eyes. It hydrolyzes very rapidly yielding hydriodic acid. Skin burns and mucosal irritation are like that from exposure to volatile inorganic acids. Symptoms include lacrimation, cough, labored breathing and excessive salivary and sputum formation. Excessive irritation of the lungs causes acute pneumonitis and pulmonary edema which could be fatal.

(Continued on Page 4)

**TOXICOLOGICAL PROPERTIES**

Hydrogen iodide is irritating and corrosive to all living tissue. Toxic level exposure to dermal tissue causes hydriodic acid burns and skin lesions resulting in early necrosis and scarring. Chemical pneumonitis and pulmonary edema result from exposure to the lower respiratory tract and deep lung. Residual pulmonary malfunction might also occur. Burns to the eye result in lesions and possible loss of vision.

Hydrogen iodide is not listed in the IARC, NTP or by OSHA as a carcinogen or potential carcinogen.

(Continued on page 4)

**RECOMMENDED FIRST AID TREATMENT**

PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO HYDROGEN IODIDE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS.

Inhalation: Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Unconscious persons should be moved to an uncontaminated area and given assisted respiration and supplemental oxygen. Keep the victim warm and quiet. Assure that mucus or vomited material does not obstruct the airway by positional drainage. Delayed pulmonary edema may occur. Keep patient under medical observation for at least 24 hours.

(Continued on Page 4)
### HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES

Reacts with the moisture in the atmosphere yielding dense, acrid, hydriodic acid fumes. Also reacts hazardously with fluorine, calcium carbide, cesium carbide, rubidium carbide and lithium silicide.

(Continued on Page 4)

### PHYSICAL DATA

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BOILING POINT</strong></td>
<td>-32.1°F (-35.6°C)</td>
</tr>
<tr>
<td><strong>LIQUID DENSITY AT BOILING POINT</strong></td>
<td>174.4 lb/ft³ (2793 kg/m³)</td>
</tr>
<tr>
<td><strong>VAPOR PRESSURE</strong></td>
<td>109.7 psia (756.4 kPa)</td>
</tr>
<tr>
<td>@ 70°F (21.1°C)</td>
<td>337 lb/ft³ (5.400 kg/m³)</td>
</tr>
<tr>
<td><strong>SOLUBILITY IN WATER</strong></td>
<td>Forms hydriodic acid</td>
</tr>
<tr>
<td><strong>EVAPORATION RATE</strong></td>
<td>N/A (Gas)</td>
</tr>
<tr>
<td><strong>FREEZING POINT</strong></td>
<td>-60.3°F (-51.3°C)</td>
</tr>
<tr>
<td><strong>SPECIFIC GRAVITY (AIR=1)</strong></td>
<td>4.5</td>
</tr>
</tbody>
</table>

**COLORLESS GAS REACTS WITH MOISTURE IN AIR FORMING PUNGENT, SUFFOCATING FUMES.**

### FIRE AND EXPLOSION HAZARDDATA

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FLASH POINT (Method used)</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>AUTO IGNITION TEMPERATURE</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>FLAMMABLE LIMITS % BY VOLUME (See Page 4)</strong></td>
<td>LE N/A UEL N/A</td>
</tr>
<tr>
<td><strong>EXTINGUISHING MEDIA</strong></td>
<td>Nonflammable gas</td>
</tr>
<tr>
<td><strong>ELECTRICAL CLASSIFICATION</strong></td>
<td>Nonhazardous</td>
</tr>
</tbody>
</table>

**SPECIAL FIRE FIGHTING PROCEDURES**

If cylinders are exposed to a fire, safely relocate or keep cool with water spray.

**UNUSUAL FIRE AND EXPLOSION HAZARDS**

None

### REACTIVITY DATA

<table>
<thead>
<tr>
<th>Stability</th>
<th>Conditions to Avoid</th>
<th>Water, organic materials</th>
<th>Hydriodic acid on hydrolysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unstable</td>
<td>X</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Stable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incompatibility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazardous</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polymerization</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SPILL OR LEAK PROCEDURES

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Evacuate all personnel from affected area. Use appropriate protective equipment. If leak is in use’s equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is in container or container valve, contact your closest supplier location or call the emergency telephone number listed herein.

**WASTE DISPOSAL METHOD**

Do not attempt to dispose of waste or unused quantities. Return in the shipping container properly labeled, with any valve outlet plugs or caps secured and valve protection cap in place to your supplier for emergency disposal assistance, contact your closest supplier location or call the emergency telephone number listed herein.
**SPECIAL PROTECTION INFORMATION**

**RESPIRATORY PROTECTION**
(Specify type)
Positive pressure air line with maks or self-contained breathing apparatus should be available for emergency use.

**VENTILATION**
Hood with forced ventilation

**LOCAL EXHAUST**
To prevent accumulation above the ceiling limit for iodine

**SPECIAL**
N/A

**MECHANICAL (Gen.)**
N/A

**OTHER**
N/A

**PROTECTIVE GLOVES**
Kel-F® or Teflon®

**EYE PROTECTION**
Safety goggles or glasses

**OTHER PROTECTIVE EQUIPMENT**
Safety shoes, safety shower, eyewash “fountain,” face shield

**SPECIAL LABELING INFORMATION**

DOT Shipping Name: Hydrogen iodide, anhydrous
DOT Shipping Label: Toxic Gas
DOT Hazard Class: Division 2.3
I.D. No.: UN 2197

**SPECIAL HANDLING RECOMMENDATIONS**
Use only in well-ventilated areas. Valve protection caps must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure (<250 psig) piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous backflow into the cylinder.

For additional handling recommendations, consult Compressed Gas Association’s Pamphlet P-1.

**SPECIAL STORAGE RECOMMENDATIONS**
Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 125°F (52°C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a “first in - first out” inventory system to prevent full cylinders being stored for excessive periods of time.

For additional storage recommendations, consult Compressed Gas Association’s Pamphlet P-1.

**SPECIAL PACKAGING RECOMMENDATIONS**
Most metals corrode rapidly with wet hydrogen iodide.

**OTHER RECOMMENDATIONS OR PRECAUTIONS**
Compressed gas cylinders should not be refilled except by qualified producers of compressed gases. Shipment of a compressed gas cylinder which has not been filled by the owner or with his (written) consent is a violation of Federal Law (49CFR).

(Continued on Page 4)

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*Various Government Agencies (i.e. Department of Transportation, Occupational Safety and Health Administration, Food and Drug Administration and others) may have specific regulations concerning the transportation, handling, storage or use of this product which will not be reflected in this data sheet. The customer should review these regulations to ensure that he is in full compliance.*
Hydrogen Iodide

HEALTH HAZARD DATA

SYMPTOMS OF EXPOSURE: (Continued)

Hydriodic acid burns exhibit severe pain, redness, possible swelling and early necrosis.

TOXICOLOGICAL PROPERTIES: (Continued)

Persons in ill health where such illness would be aggravated by exposure to hydrogen iodide should not be allowed to work with or handle this product.

RECOMMENDED FIRST AID TREATMENT: (Continued)

Eye Contact: PERSONS WITH POTENTIAL EXPOSURE TO HYDROGEN IDODIDE SHOULD NOT WEAR CONTACT LENSES.

Flush contaminated eye(s) with copious quantities of water. Part eyelids to assure complete flushing. Continue for a minimum of 15 minutes.

Skin Contact: Flush affected area with copious quantities of water. Remove affected clothing as rapidly as possible.

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES: (Continued)

Moist hydrogen iodide reacts with most metals in a corrosive manner liberating flammable hydrogen gas. It reacts with many organic materials with the liberation of heat.

SPECIAL PRECAUTIONS

OTHER RECOMMENDATIONS OR PRECAUTIONS: (Continued)

Always secure cylinders in an upright position before transporting them. NEVER transport cylinders in trunks of vehicles, enclosed vans, truck cabs or in passenger compartments. Transport cylinders secured in open flatbed or in open pick-up type vehicles.

Reporting under SARA, Title III, Section 313 not requireci.

NFPA 704 No. for hydrogen iodide = 3 0 0 Ncne