PRODUCT INFORMATION

PRODUCT: Hydrogen Iodide

TRADE NAME: Hydrogen Iodide; Hydriodic Acid, Anhydrous

CHEMICAL NAME: Hydrogen Iodide; Hydriodic Acid, Anhydrous

SYNONYMS: Hydrogen Iodide, Anhydrous

FORMULA: HI

CHEMICAL FAMILY: Inorganic Acid (anhydrous)

SUPPLIER’S NAME: MEGS Inc.

SUPPLIER’S ADDRESS: 2675 De Miniac
Ville St-Laurent, Qc, H4S 1E5

EMERGENCY PHONE NUMBER: (514) 956-7503

MOLECULAR WEIGHT: 127.91

PRODUCT USE: Various

PRODUCT IDENTIFICATION NUMBER: UN 2197

HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>CHEMICAL ID</th>
<th>CONCENTRATION</th>
<th>CAS #</th>
<th>LD(50)</th>
<th>LC(50)</th>
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</thead>
<tbody>
<tr>
<td>Hydrogen Iodide</td>
<td>100%</td>
<td>10034-85-2</td>
<td>None</td>
<td>None</td>
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PHYSICAL DATA

PHYSICAL STATE: Gas and liquid under pressure

APPEARANCE: Colorless gas and liquid which fumes in moist air

ODOR: Pungent, suffocating odor

ODOR THRESHOLD: Unknown
SPECIFIC GRAVITY (H₂O = 1): See Vapor Density (air = 1)
VAPOR PRESSURE: 640 kPa @ 15°C
VAPOR DENSITY (air = 1): 4.5
EVAPORATION RATE: Not applicable (gas)
BOILING POINT: -35.4°C
FREEZING POINT: -50.8°C
pH: Acidic
GAS DENSITY: 4.91 kg/m³ @ 15°C, 101.3 kPa

COEFFICIENT OF WATER/OIL: Dissolves in water forming hydrates and eutectics.

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<td>CONDITIONS OF FLAMMABILITY:</td>
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<td>MEANS OF EXTINCTION:</td>
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<tr>
<td>FLASHPOINT AND METHOD OF DETERMINATION:</td>
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<tr>
<td>UPPER EXPLOSION LIMIT (% BY VOL):</td>
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<tr>
<td>LOWER EXPLOSION LIMIT (% BY VOL):</td>
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<tr>
<td>AUTO-IGNITION TEMPERATURE:</td>
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<tr>
<td>FLAMMABILITY CLASSIFICATION:</td>
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<td>HAZARDOUS COMBUSTION PRODUCTS:</td>
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<td>EXPLOSION DATA:</td>
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<td>SENSITIVITY TO STATIC DISCHARGE:</td>
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<th>REACTIVITY DATA</th>
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<td>CHEMICAL STABILITY:</td>
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<td>INCOMPATIBLE MATERIALS:</td>
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<td>CONDITIONS OF REACTIVITY:</td>
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<td>HAZARDOUS DECOMPOSITION PRODUCTS:</td>
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<th>TOXICOLOGICAL PROPERTIES</th>
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<td>ROUTES OF ENTRY:</td>
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<td>SKIN CONTACT:</td>
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redness, possible swelling and early necrosis.

**SKIN ABSORPTION:** None

**EYE:** See Skin Contact, above

**INHALATION:** Corrosive and irritating to the upper and lower respiratory tracts. Symptoms include lachrymation, cough, labored breathing and excessive salivary and sputum formation. Excessive irritation of the lungs, acute pneumonitis and pulmonary edema which could be fatal.

**INGESTION:** None

**ACUTE OVER EXPOSURE EFFECTS:** Hydrogen iodide is irritating and corrosive to all living tissues. Toxic level exposure to dermal tissue causes hydrochloric acid burns and skin lesions resulting in early necrosis and scarring. Hydrogen iodide's great affinity for water causes its contact with dermal tissue to appear like a burn. 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.

**CHRONIC OVER EXPOSURE EFFECTS:** None known

**EXPOSURE LIMITS:** No TWA is established. Iodide has a ceiling limit of 0.1 molar ppm (ACGIH 1995-1996)

**IRRITANCY OF PRODUCT:** See Skin and Eyes Contact, above.

**SENSITIZATION TO MATERIAL:** None known

**CARCINOGENICITY, REPRODUCTIVE EFFECTS:** None known

**TERATOGENICITY, MUTAGENICITY:** None known

**TOXICOLOGICALLY SYNERGISTIC PRODUCTS:** Other inorganic acids (anhydrous)

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**PREVENTIVE MEASURES**

**PERSONAL PROTECTIVE EQUIPMENT:** Kel-F® or Teflon® gloves. Safety goggles or safety glasses. Safety shoes, safety shower and eyewash "fountain".

**SPECIFIC ENGINEERING CONTROLS:** Most metals corrode rapidly with wet hydrogen iodide. Copper-nickel alloys and copper-tin alloys as well as stainless
steel and nickel-chromium alloys offer the best resistance to HI corrosion, under scrupulously anhydrous conditions.

**LEAK AND SPILL PROCEDURES:** EVACUATE ALL PERSONNEL FROM AFFECTED AREA.
Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is on container or container valve, contact the closest MEGS location.

**WASTE DISPOSAL:** 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 MEGS for proper disposal. For emergency disposal, contact the closest MEGS location.

**HANDLING PROCEDURES AND EQUIPMENT:** USE ONLY IN WELL-VENTILATED AREAS.
Valve protection caps must remain in place unless container is secured with valve outlet piped to the point of use. Do not drag, slide, drop or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure piping or systems. Do not heat cylinder by any means to increase the discharge line to prevent hazardous back flow into the cylinder. Keep cylinder away from heat and flame. Do not tamper with (valve) safety device. Close valve after each use and when empty.

**STORAGE REQUIREMENTS:** Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of non combustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 52°C. Cylinders must 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.

**TDG CLASSIFICATION:** 2.3 (8)

**WHMIS CLASSIFICATION:** A, E

**SPECIAL SHIPPING INFORMATION:** 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.

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**FIRST AID MEASURES**

**SPECIFIC FIRST AID PROCEDURES:** 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 moved to an uncontaminated area and given assisted respiration and supplemental oxygen. Keep the victim warm and quiet. Assure that mucous 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.

**EYE CONTACT:** PERSONS WITH POTENTIAL EXPOSURE TO HYDROGEN IODIDE 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.

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**PREPARATION INFORMATION**

PREPARED BY: Safety Department

DATE PREPARED: 01/01/1999

LAST REVISION DATE: 05/21/2002

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