



## Material Safety Data Sheet

**Product Name: Hydriodic acid**

### Section 1-Product Information

**Formula** : HI  
**Molecular weight** : 127.91  
**CAS No** : 10034-85-2  
**Synonym's** : Hydriodic acid solution, Hydrogen Iodide solution

### Section 2-Composition, Information on Ingredients

**Ingredient** : Hydroiodic acid  
**Hazardous** : Yes  
**Percent** : 40 - 60%  
**Appearance** : Colorless Liquid

### Section 3-Hazards Identification

#### Emergency Overview

Danger! Causes severe burns. Vapor, mist and liquid cause burns to all body tissue. May be fatal if swallowed or inhaled.

#### SAF-T-DATA Ratings (provided here for your convenience)

**Health Rating** : 3 – Severe  
**Flammability Rating** : 0 – None  
**Reactivity Rating** : 1 – Slight  
**Contact Rating** : 4 – Extreme (Corrosive)  
**Lab protective Equip** : Goggles & Shield; Lab coat & Apron; Vent hood; Proper gloves  
**Storage Color Code** : White (Corrosive)

#### Potential Health Effects

**Eye Contact:** Highly toxic to eye tissue. May cause burns to mucous membranes and permanent eye damage.

**Skin Contact :** May cause burns to skin tissue upon contact.

**Ingestion :** Burning pain in mouth and esophagus. Severe corrosive gastroenteritis evidenced by vomiting, abdominal pain, and diarrhea. In severe cases, ingestion may be fatal.

**Inhalation :** Causes severe irritation and burns to the respiratory tract. May cause secondary chemical pneumonia which can possibly lead to death.

**Chronic Exposure:** Possible bronchial irritation.

**Aggravation of Pre-existing conditions:** Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the substance.



#### Section 4-First Aid Measure

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**Ingestion:** If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Skin Contact:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Call a physician.

**Eye Contact:** Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

#### Section 5-Fire fighting procedure

**Fire:** Non-combustible under ordinary conditions. Releases hydrogen upon contact with common metals.

**Explosion:** Not considered to be an explosion hazard.

**Fire Extinguishing Media:** Water spray can be used to extinguish fires and cool fire-exposed containers.

**Special Information:** In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Can react with metals to release flammable hydrogen gas.

#### Section 6-Accidental Release Measure

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Neutralize with alkaline material (soda ash, lime), then absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer!

#### Section 7-Handling and Storage

Keep in a tightly closed container. Protect from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities. Store below 30°C (86°F) and protect from light. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.



## Section 8-Exposure control/Personal protection

**Airborne Exposure Limits:** None established.

**Ventilation System:** A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

**Personal Respirators (NIOSH Approved):** Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29CFR 1910.134) and, if necessary, wear a NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for the given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

**Skin Protection:** Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Eye Protection:** Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

## Section 9-Physical Chemical Properties

<b>Appearance</b>	: Colorless liquid.
<b>Odor</b>	: Pungent odor.
<b>Solubility</b>	: Complete (100%)
<b>Specific Gravity</b>	: 1.54
<b>pH</b>	: 1.0 (0.1M solution)
<b>% Volatiles by volume @ 21C (70F)</b>	: 100
<b>Boiling Point</b>	: No information found.
<b>Melting Point</b>	: No information found.
<b>Vapor Density (Air=1)</b>	: Not applicable.
<b>Vapor Pressure (mm Hg)</b>	: Not applicable.
<b>Evaporation Rate (BuAc=1)</b>	: No information found.

## Section 10-Stability and Reactivity

**Stability:** Stable under ordinary conditions of use and storage. Darkens on exposure to air or light.

**Hazardous Decomposition Products:** Burning may produce toxic iodine vapors.

**Hazardous Polymerization:** Will not occur.

**Incompatibilities:** Strong oxidizers, alkalis, fluorine, potassium, nitric acid, some metals, water, and steam. Attacks natural rubber.

**Conditions to Avoid:** Light, heat, incompatibles.



## Section 11-Toxicity Information

-----\Cancer Lists\-----

---NTP Carcinogen---

Ingredient	Known	Anticipated	IARC Category
Water (7732-18-5)	No	No	None
Hydriodic Acid (10034-85-2)	No	No	None

## Section 12-Ecological Information

**Environmental Fate:** No information found.

**Environmental Toxicity:** No information found.

## Section 13-Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## Section 14-Transport Information

### Domestic (Land, D.O.T.)

**Proper Shipping Name:** HYDRIODIC ACID

**Hazard Class:** 8

**UN/NA:** UN1787

Packing Group: II

**Information reported for product/size:** 500G

### International (Water, I.M.O.)

**Proper Shipping Name:** HYDRIODIC ACID

**Hazard Class:** 8

**UN/NA:** UN1787

Packing Group: II

**Information reported for product/size:** 500G



## Section 15-Regulatory Information

### -----\Chemical Inventory Status - Part 1\-----

Ingredient	TSCA	EC	Japan	Australia
Water (7732-18-5)	Yes	Yes	Yes	Yes
Hydriodic Acid (10034-85-2)	Yes	Yes	Yes	Yes

### -----\Chemical Inventory Status - Part 2\-----

--Canada--

Ingredient	Korea	DSL	NDSL	Phil.
Water (7732-18-5)	Yes	Yes	No	Yes
Hydriodic Acid (10034-85-2)	Yes	Yes	No	Yes

### -----\Federal, State & International Regulations - Part 1\-----

-SARA 302- -----SARA 313----

Ingredient	RQ	TPQ	List	Chemical Catg.
Water (7732-18-5)	No	No	No	No
Hydriodic Acid (10034-85-2)	No	No	No	No

### -----\Federal, State & International Regulations - Part 2\-----

-RCRA- -TSCA-

Ingredient	CERCLA	261.33	8(d)
Water (7732-18-5)	No	No	No
Hydriodic Acid (10034-85-2)	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No

SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No

Reactivity: No (Mixture / Liquid)

**Australian Hazchem Code:** 2R

**Poison Schedule:** None allocated.

**WHMIS:** This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.



## Section 16-Additional Information

**NFPA Ratings:** Health: **3** Flammability: **0** Reactivity: **0**

**Label Hazard Warning:**

DANGER! CAUSES SEVERE BURNS. VAPOR, MIST AND LIQUID CAUSE BURNS TO ALL BODY TISSUES. MAY BE FATAL IF SWALLOWED OR INHALED.

**Label Precautions:**

Do not get in eyes, on skin, or on clothing.

Do not breathe vapor or mist.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

**Label First Aid:**

In all cases call a physician immediately. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse.

**Product Use:**

Laboratory Reagent.

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