



## Safety Data Sheet

Material Name: Hydrogen Iodide

### \*\*\*Section 1 - IDENTIFICATION\*\*\*

**Material Name**

Hydrogen Iodide

**Synonyms**

Anhydrous hydriodic acid; Hydroiodic acid

**Chemical Family**

Acids, inorganic

**Product Use**

industrial.

**Restrictions on Use**

None known.

**Details of the supplier of the safety data sheet**

Electronic Fluorocarbons

3266 Bergey Road

Hatfield PA 19440

General Information: 1-215-443-9600

Emergency #: 1-800-535-5053

Outside the US: 1-352-323-3500 (Call collect)

### \*\*\*Section 2 - HAZARDS IDENTIFICATION\*\*\*

**Classification in accordance with paragraph (d) of 29 CFR 1910.1200.**

Gases Under Pressure - Liquefied gas

Skin Corrosion/Irritation - Category 1

Serious Eye Damage/Eye Irritation - Category 1

Specific target organ toxicity - Single exposure - Category 1 ( respiratory system )

Specific target organ toxicity - Repeated exposure - Category 1

( respiratory system ) Simple Asphyxiant

**GHS Label Elements**

**Symbol(s)**



**Signal Word**

Danger

**Hazard Statement(s)**

Contains gas under pressure; may explode if heated.

Causes severe skin burns and eye damage.

May displace oxygen and cause rapid suffocation.

Causes damage to respiratory system.

Causes damage to organs through prolonged or repeated exposure. **Precautionary Statement(s)**

**Prevention**

Do not breathe gas.

Wash thoroughly after handling.

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Wear protective gloves/protective clothing/eye protection/face protection.

Do not eat, drink or smoke when using this product.

### Response

Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

Eliminate all ignition sources if safe to do so.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Immediately call a POISON CENTER or doctor/physician.

IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing.

Wash contaminated clothing before reuse.

Rinse skin with water/shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

### Storage

Protect from sunlight.

Store in a well-ventilated place.

Store locked up.

### Disposal

Dispose in accordance with all applicable regulations.

### Other Hazards

May cause frostbite upon sudden release of liquefied gas.

## \*\*\*Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS\*\*\*

CAS	Component Name	Percent
10034-85-2	Hydrogen Iodide	100.0

## \*\*\*Section 4 - FIRST AID MEASURES\*\*\*

### Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

### Skin

If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115 F; 41-46 C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.

### Eyes

Immediately flush eyes with plenty of water for at least 60 minutes. Then get immediate medical attention.

### Ingestion

If a large amount is swallowed, get medical attention.

### Most Important Symptoms/Effects

#### Acute

Frostbite, respiratory tract burns, skin burns, eye burns, mucous membrane burns, respiratory system damage

#### Delayed

respiratory system damage

### Note to Physicians

For inhalation, consider oxygen.

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## \*\*\*Section 5 - FIRE FIGHTING MEASURES\*\*\*

### Extinguishing Media

#### Suitable Extinguishing Media

carbon dioxide, regular dry chemical, Large fires: Use regular foam or flood with fine water spray.

#### Unsuitable Extinguishing Media

None known.

#### Special Hazards Arising from the Chemical

Negligible fire hazard. Pressurized containers may rupture or explode if exposed to sufficient heat. **Fire Fighting Measures**

Do not get water inside container. Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Keep unnecessary people away, isolate hazard area and deny entry. Use extinguishing agents appropriate for surrounding fire. Flood with fine water spray. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Consider downwind evacuation if material is leaking.

#### Special Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure

## \*\*\*Section 6 - ACCIDENTAL RELEASE MEASURES\*\*\*

### Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8.

### Methods and Materials for Containment and Cleaning Up

Keep unnecessary people away, isolate hazard area and deny entry. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Stop leak if possible without personal risk. Reduce vapors with water spray. Ventilate closed spaces before entering. Avoid heat, flames, sparks and other sources of ignition.

### Environmental Precautions

Avoid release to the environment.

## \*\*\*Section 7 - HANDLING AND STORAGE\*\*\*

### Precautions for Safe Handling

Keep away from heat, sparks and flame. Do not breathe gas, fumes, vapor, or spray. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation. Keep container tightly closed

### Including any incompatibilities

#### Conditions for Storage,

Protect from sunlight.

Store in a well-ventilated place.

Store locked up.

Store and handle in accordance with all current regulations and standards. Store in a well-ventilated area. Protect from sunlight. Protect from physical damage. Keep locked up. Keep separated from incompatible substances. **Incompatible Materials**

combustible materials, halogens, metals, oxidizing materials, peroxides

## \*\*\*Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION\*\*\*

### Component Exposure Limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

### ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

There are no biological limit values for any of this product's components.

### Engineering Controls

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

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**Individual Protection Measures, such as Personal Protective Equipment**

**Eye/face protection**

Wear splash resistant safety goggles with a faceshield. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

**Skin Protection**

For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing. **Respiratory Protection**

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

**Glove Recommendations**

For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing

**\*\*\*Section 9 - PHYSICAL AND CHEMICAL PROPERTIES\*\*\***

<b>Appearance</b>	colorless gas	<b>Physical State</b>	gas
<b>Odor</b>	pungent odor	<b>Color</b>	colorless
<b>Odor Threshold</b>	Not available	<b>pH</b>	(Acidic in solution )
<b>Melting Point</b>	-50 °C (-58 °F )	<b>Boiling Point</b>	-35 °C (-31 °F )
<b>Boiling Point Range</b>	Not available	<b>Freezing point</b>	Not available
<b>Evaporation Rate</b>	Not available	<b>Flammability (solid, gas)</b>	Not available
<b>Autoignition Temperature</b>	Not available	<b>Flash Point</b>	(Not flammable )
<b>Lower Explosive Limit</b>	Not available	<b>Decomposition temperature</b>	Not available
<b>Upper Explosive Limit</b>	Not available	<b>Vapor Pressure</b>	Not available
<b>Vapor Density (air=1)</b>	4.5	<b>Specific Gravity (water=1)</b>	2.85 at -47 °C
<b>Water Solubility</b>	70 % (@ 10 °C )	<b>Partition coefficient: n-octanol/water</b>	Not available
<b>Viscosity</b>	Not available	<b>Kinematic viscosity</b>	Not available
<b>Solubility (Other)</b>	Not available	<b>Density</b>	6.6 g/L
<b>Physical Form</b>	gas	<b>Molecular Formula</b>	H-I
<b>Molecular Weight</b>	127.91		

**Solvent**

**Solubility**

**Soluble**

alcohol

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## \*\*\*Section 10 - STABILITY AND REACTIVITY\*\*\*

### Chemical Stability

Stable at normal temperatures and pressure.

### Possibility of Hazardous Reactions

Will not polymerize.

### Conditions to Avoid

Minimize contact with material. Avoid inhalation of material or combustion by-products. Containers may rupture or explode if exposed to heat.

### Incompatible Materials

combustible materials, halogens, metals, oxidizing materials, peroxides

### Hazardous decomposition products

iodinated compounds

## \*\*\*Section 11 - TOXICOLOGICAL INFORMATION\*\*\*

### Information on Likely Routes of Exposure

#### Inhalation

burns, lung congestion, digestive disorders

#### Skin Contact

burns

#### Eye Contact

burns

#### Ingestion

burns

### Acute and Chronic Toxicity

#### Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

#### Product Toxicity Data

##### Acute Toxicity Estimate

No data available.

##### Immediate Effects

respiratory tract burns, skin burns, eye burns, mucous membrane burns, respiratory system damage

##### Delayed Effects

respiratory system damage

##### Irritation/Corrosivity Data

No animal testing data available for skin or eyes.

##### Respiratory Sensitization

No data available.

##### Dermal Sensitization

No data available.

##### Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA

##### Germ Cell Mutagenicity

No data available.

##### Tumorigenic Data

No data available

##### Reproductive Toxicity

No data available.

##### Specific Target Organ Toxicity - Single Exposure

skin, eyes, respiratory system

##### Specific Target Organ Toxicity - Repeated Exposure

respiratory system

##### Aspiration hazard

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Not applicable.

**Medical Conditions Aggravated by Exposure** None known.

## Section 12 - ECOLOGICAL INFORMATION

### Component Analysis - Aquatic Toxicity

No LOEL ecotoxicity data are available for this product's components. **Persistence and Degradability**  
Readily hydrolyzes to form hydriodic acid.

### Bioaccumulative Potential

No data available.

### Mobility

No data available.

## Section 13 - DISPOSAL CONSIDERATIONS

### Disposal Methods

Dispose in accordance with all applicable regulations.

### Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

## Section 14 - TRANSPORT INFORMATION

### Component Marine Pollutants (IMDG)

Not a marine pollutant.

### US DOT Information:

**Shipping Name:** HYDROGEN IODIDE, ANHYDROUS

**Hazard Class:** 2.3

**UN/NA #:** UN2197

**Required Label(s):** 2.3

**Additional information:** Toxic-Inhalation Hazard Zone C

### IMDG Information:

**Shipping Name:** HYDROGEN IODIDE, ANHYDROUS

**Hazard Class:** 2.3

**UN#:** UN2197

**Required Label(s):** 2.3

### International Bulk Chemical Code

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

## Section 15 - REGULATORY INFORMATION

### U.S. Federal Regulations

None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan. **SARA Section 311/312 (40 CFR 370 Subparts B and C) 2016 reporting categories**

**Acute Health:** Yes **Chronic Health:** Yes **Fire:** No **Pressure:** Yes **Reactivity:** No

**SARA Section 311/312 (40 CFR 370 Subparts B and C) 2017 reporting categories**

Gas Under Pressure; Skin Corrosion/Irritation; Serious Eye Damage/Eye Irritation; Specific Target Organ Toxicity; Simple Asphyxiant

### U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

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Component	CAS	CA	MA	MN	NJ	PA
<b>Hydrogen Iodide</b>	<b>10034-85-2</b>	No	Yes	No	Yes	Yes

**Not listed under California Proposition 65**

**Canada Regulations**

**Canadian WHMIS Ingredient Disclosure List (IDL)**

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present

above the threshold limits listed	Hydrogen Iodide 10034-85-2
	1 %

**WHMIS Classification**

A , E

**Component Analysis -**

**Inventory Hydrogen Iodide**

<b>(10034-85-2)</b>													
US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes

**Section 16 - OTHER INFORMATION**

**NFPA Ratings**

Health: 3 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

**Summary of Changes**

New SDS: 09/09/2015

**Key / Legend**

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania\*; CAS - Chemical Abstracts Service; CFR - Code of Federal Regulations (US); CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ -

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ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX – Mexico; NDSL – Non-Domestic Substance List (Canada); NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TCCA – Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW – Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); WHMIS - Workplace Hazardous Materials Information System (Canada).

## **Other Information**

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