



Safety Data Sheet

Hydrogen Bromide

Section 1: Product and Company Identification

Middlesex Gases & Technologies

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Product Code: Hydrogen Bromide

Section 2: Hazards Identification



Danger

Hazard Classification:

Acute Gas Inhale Toxicity (Category 3)
Gases Under Pressure
Skin Corrosion (Category 1.A)
Specific target organ toxicity (Single Exposure) (Category 3)

Hazard Statements:

Causes severe skin burns and eye damage
Contains gas under pressure; may explode if heated
May cause respiratory irritation;
Toxic if inhaled

Precautionary Statements**Prevention:**

Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Do not breathe dust/fume/gas/mist/ vapors/spray..
[In case of inadequate ventilation] wear respiratory protection.
Wear protective gloves, protective clothing, eye protection and face protection.

Response:

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
Immediately call a poison center or doctor.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
Protect from sunlight.
Store locked up.

Disposal:

Dispose of contents and/or container in accordance with applicable regulations.

Section 3: Composition/Information on Ingredients

CAS #
10035-10-6

Chemical Substance	Chemical Family	Trade Names
HYDROGEN BROMIDE	acids, inorganic	HYDROBROMIC ACID; ANHYDROUS HYDROBROMIC ACID; HYDROGEN MONOBROMIDE; HYDROGEN BROMIDE (HBR); HYDROGEN BROMIDE (H2BR2); STCC 4904260; UN 1048; HBR

Section 4: First Aid Measures

Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get immediate medical attention. Thoroughly clean and dry contaminated clothing before reuse. Destroy contaminated shoes.	Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.	Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. Give large amounts of water or milk. Allow vomiting to occur. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.	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.	For inhalation, consider oxygen. Avoid gastric lavage or emesis.

Section 5: Fire Fighting Measures

Suitable Extinguishing Media	Products of Combustion	Protection of Firefighters
Non-flammable. use suitable extinguishing media for surrounding fire.	Non-flammable	<ul style="list-style-type: none"> ▪ Non-flammable ▪ Non-flammable

Section 6: Accidental Release Measures

Personal Precautions	Environmental Precautions	Methods for Containment
Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas. Ventilate closed spaces before entering. Evacuation radius: 150 feet.	Avoid contamination of surrounding environment.	Stop leak if possible without personal risk. Reduce vapors with water spray. Do not get water directly on material. Do not get water inside container.

Methods for Cleanup	Other Information
Small spills: Flood with water. Large spills: Dike for later disposal.	None

Section 7: Handling and Storage

Handling	Storage
Store and handle in accordance with all current regulations and standards. Protect from physical damage. Store in a cool, dry place. Store in a well-ventilated area.	Keep separated from incompatible substances.

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines

HYDROGEN BROMIDE: 3 ppm (10 mg/m³) OSHA TWA 3 ppm (10 mg/m³) OSHA ceiling (vacated by 58 FR 35338, June 30, 1993) 2 ppm ACGIH ceiling 3 ppm (10 mg/m³) NIOSH recommended ceiling

Engineering Controls

Handle only in fully enclosed systems.

Eye Protection	Skin Protection	Respiratory Protection
Wear splash resistant safety goggles with a face shield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.	Wear appropriate chemical resistant clothing.	Non-flammable

General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

Section 9: Physical and Chemical Properties

Physical State	Appearance	Color	Change in Appearance	Physical Form	Odor	Taste
Gas	Colorless	Colorless	N/A	Gas	Pungent odor	N/A

Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
Not flammable	Not available	Not available	Nonflammable	Nonflammable	Nonflammable

Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
-89 F (-67 C)	-123 F (-86 C)	15750 mmHg @ 20 C	2.8 (Air=1)	1.8 @ 20 C (water=1)	1.94	Acidic in solution	2 ppm (recognition or detection not specified)	Not applicable	Not available

Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
80.92	H-BR	3.5 g/L @ 0 C	Not available	Not available	Not applicable	Slightly Soluble: Soluble in ethanol, diethyl ether, and other organic solvents

Section 10: Stability and Reactivity

Stability	Conditions to Avoid	Incompatible Materials
Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Bases, combustible materials, halogens, oxidizing materials

Hazardous Decomposition Products	Possibility of Hazardous Reactions
Miscellaneous decomposition products	Will not polymerize.

Section 11: Toxicology Information

Acute Effects

Oral LD50	Dermal LD50	Inhalation
LD50 Intraperitoneal Rat 76 mg/kg	Not available	Burns, nausea, difficulty breathing, headache, dizziness, bluish skin color, lung congestion

Eye Irritation	Skin Irritation	Sensitization
Burns, tearing, blindness	Irritation (possibly severe)	Respiratory tract burns, skin burns, eye burns, mucous membrane burns

Chronic Effects

Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
Not available	Not available	Not available	No data

Section 12: Ecological Information

Fate and Transport

Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Fish toxicity: Not available Invertebrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	Not available	Not available	Not available

Section 13: Disposal Considerations

Dispose in accordance with all applicable regulations.

Section 14: Transportation Information

U.S. DOT 49 CFR 172.101

Proper Shipping Name	ID Number	Hazard Class or Division	Packing Group	Labeling Requirements	Passenger Aircraft or Railcar Quantity Limitations	Cargo Aircraft Only Quantity Limitations	Additional Shipping Description
Hydrogen bromide, anhydrous	UN1048	2.3	Not applicable	2.3; 8	Forbidden	Forbidden	Toxic-Inhalation Hazard Zone C

Canadian Transportation of Dangerous Goods

Shipping Name	UN Number	Class	Packing Group / Risk Group
Hydrogen bromide, anhydrous	UN1048	2.3; 8	Not applicable

Section 15: Regulatory Information

U.S. Regulations

CERCLA Sections	SARA 355.30	SARA 355.40
Not regulated.	Not regulated.	Not regulated.

SARA 370.21

Acute	Chronic	Fire	Reactive	Sudden Release
Yes	No	No	No	Yes

SARA 372.65

Not regulated.

OSHA Process Safety

5000 LBS TQ

State Regulations**CA Proposition 65**

Not regulated.

Canadian Regulations**WHMIS Classification**

Included for disclosure at 1% or greater.

National Inventory Status

US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDSL)
Listed on inventory.	Not listed.	Not determined.

Section 16: Other Information

NFPA Rating

HEALTH=3 FIRE=0 REACTIVITY=0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard