

**Hydrobromic Acid 48% (w/w)****SECTION 1. IDENTIFICATION**

<b>Product Identifier</b>	Hydrobromic Acid 48% (w/w)
<b>Other Means of Identification</b>	Aqueous hydrogen bromide, HBr
<b>Product Code(s)</b>	HY1720, HY1725
<b>Product Family</b>	Inorganic Acid
<b>Recommended Use</b>	Laboratory and industrial use.
<b>Restrictions on Use</b>	None known.
<b>Supplier Identifier</b>	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
<b>Emergency Phone No.</b>	CANUTEC CANADA, 613-996-6666, 24 Hours
<b>SDS No.</b>	0806

**SECTION 2. HAZARD IDENTIFICATION**

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

**Classification**

Skin corrosion - Category 1; Serious eye damage - Category 1; Specific target organ toxicity (single exposure) - Category 3

**Label Elements**

Signal Word:  
Danger

**Hazard Statement(s):**

Causes severe skin burns and eye damage.  
May cause respiratory irritation.

**Precautionary Statement(s):****Prevention:**

Avoid breathing dust/fume/gas/mist/vapours/spray.  
Wash hands and skin thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Use only outdoors or in a well-ventilated area.

**Response:**

Immediately call a POISON CENTRE or doctor.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
IF ON SKIN: Wash with plenty of water/  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

---

Product Identifier: Hydrobromic Acid 48% (w/w)

Date of Preparation: November 24, 2016

Page 01 of 06

Continue rinsing.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage:

Store in a well-ventilated place. Keep container tightly closed.

Disposal:

Dispose of contents and container in accordance with local, regional, national and international regulations.

#### **Other Hazards**

None known.

### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance:

<b>Chemical Name</b>	<b>CAS No.</b>	<b>%</b>	<b>Other Identifiers</b>
Water	7732-18-5	52	Dihydrogen Oxide
Hydrogen bromide	10035-10-6	48	Aqueous hydrogen bromide, HBr,

### **SECTION 4. FIRST-AID MEASURES**

#### **First-aid Measures**

##### **Inhalation**

Remove source of exposure or move to fresh air. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor. Avoid mouth-to-mouth contact by using a barrier device.

##### **Skin Contact**

Immediately rinse skin with lukewarm, gently flowing water for at least 30 minutes. Immediately call a Poison Centre or doctor.

##### **Eye Contact**

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a Poison Centre or doctor.

##### **Ingestion**

Rinse mouth with water. Do not induce vomiting. Immediately call a Poison Centre or doctor.

##### **First-aid Comments**

Some of the first-aid procedures recommended here require advanced first-aid training. If exposed or concerned, get medical advice or attention.

#### **Most Important Symptoms and Effects, Acute and Delayed**

May cause serious eye damage. May irritate or burn the eyes. Permanent damage including blindness may result.

#### **Immediate Medical Attention and Special Treatment**

##### **Special Instructions**

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### **SECTION 5. FIRE-FIGHTING MEASURES**

#### **Extinguishing Media**

##### **Suitable Extinguishing Media**

Not combustible. Use extinguishing agent suitable for surrounding fire. Carbon dioxide, dry chemical powder or appropriate foam. Use water to keep non-leaking, fire-exposed containers cool.

##### **Unsuitable Extinguishing Media**

None known.

Product Identifier: Hydrobromic Acid 48% (w/w)

Date of Preparation: November 24, 2016

Page 02 of 06

### Specific Hazards Arising from the Product

Heating increases the release of toxic vapour.

In a fire, the following hazardous materials may be generated: flammable hydrogen. Bromine.

### Special Protective Equipment and Precautions for Fire-fighters

Evacuate area. Fight fire from a safe distance or a protected location. Approach fire from upwind to avoid hazardous vapours or gases. Do NOT apply water directly to spill. Knock down vapours or gases with water fog or fine water spray. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles. Dike and recover contaminated water for appropriate disposal.

Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment, and Emergency Procedures

Use the personal protective equipment recommended in Section 8 of this safety data sheet. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Remove or isolate incompatible materials as well as other hazardous materials.

### Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway. If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas.

### Methods and Materials for Containment and Cleaning Up

Small spills or leaks: neutralize with Soda Ash or Lime, then absorb with Vermiculite, dry sand, or earth. Collect using shovel/scoop or approved HEPA vacuum and place in a suitable container for disposal. Flush spill area.

Large spills or leaks: contact emergency services and manufacturer/supplier for advice.

## SECTION 7. HANDLING AND STORAGE

### Precautions for Safe Handling

Immediately report leaks, spills or failures of the safety equipment (e.g. ventilation system). Wear personal protective equipment to avoid direct contact with this chemical. Avoid generating vapours or mists. Only use where there is adequate ventilation. Prevent accidental contact with incompatible chemicals. Never add water to a corrosive. Always add corrosives slowly to COLD water. Keep containers tightly closed when not in use or empty.

### Conditions for Safe Storage

Store in an area that is: cool, dry, well-ventilated, out of direct sunlight and away from heat and ignition sources. Keep amount in storage to a minimum. Protect from conditions listed in Conditions to Avoid in Section 10 (Stability and Reactivity). Separate from incompatible materials (see Section 10: Stability and Reactivity). Store in a closed container.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Hydrogen bromide		2 ppm		3 ppm		
Water	Not established		Not established			

### Appropriate Engineering Controls

Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Use a corrosion-resistant exhaust ventilation system separate from other ventilation systems. Exhaust directly to the outside, taking any necessary precautions for environmental protection.

### Individual Protection Measures

#### Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

#### Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Product Identifier: Hydrobromic Acid 48% (w/w)

Date of Preparation: November 24, 2016

Page 03 of 06

Suitable materials are: Barrier® (PE/PA/PE), Tychem® Responder.  
The following materials should NOT be used: polyvinyl chloride.

#### Respiratory Protection

Wear a NIOSH approved air-purifying respirator with an appropriate cartridge, wear a full facepiece NIOSH approved air-purifying respirator with an acid gas cartridge.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

Appearance	Colourless liquid.
Odour	Pungent
Odour Threshold	Not available
pH	< 1
Melting Point/Freezing Point	-11 °C (12 °F) (melting); -11 °C (12 °F) (freezing)
Initial Boiling Point/Range	126 - 128 °C (259 - 262 °F)
Flash Point	Not available
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	8 mm Hg (1 kPa) at 25 °C
Vapour Density (air = 1)	2.8
Relative Density (water = 1)	1.480
Solubility	Not available in water; Not available (in other liquids)
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)
Other Information	
Physical State	Liquid
Molecular Weight	80.9

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

None known.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

None known.

### Conditions to Avoid

Incompatible materials. Excess heat. Exposure to air. Light.

### Incompatible Materials

Halogenated compounds (e.g. trichloroethylene), strong oxidizing agents (e.g. perchloric acid), strong bases (e.g. sodium hydroxide), metals (e.g. aluminum).

### Hazardous Decomposition Products

Bromine.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

### Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Hydrogen bromide	1430 ppm (male rat)	Not available	Not available
Water	Not available	> 89840 mg/kg (rat)	Not available

### Skin Corrosion/Irritation

Human experience and animal tests show skin corrosion.

### Serious Eye Damage/Irritation

Causes serious eye damage based on skin corrosion information.

### STOT (Specific Target Organ Toxicity) - Single Exposure

#### Inhalation

Causes nose and throat irritation.

#### Ingestion

May cause irritation of the mouth, throat and stomach.

### Aspiration Hazard

No information was located.

### STOT (Specific Target Organ Toxicity) - Repeated Exposure

No information was located.

### Respiratory and/or Skin Sensitization

No information was located.

### Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Hydrogen bromide	Not Listed	Not designated	Not Listed	
Water	Not Listed	Not Listed	Not Listed	Not Listed

### Reproductive Toxicity

#### Development of Offspring

No information was located.

#### Sexual Function and Fertility

No information was located.

#### Effects on or via Lactation

No information was located.

### Germ Cell Mutagenicity

No information was located.

### Interactive Effects

No information was located.

## SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

Dispose of contents and container in accordance with local, regional, national and international regulations.

Product Identifier: Hydrobromic Acid 48% (w/w)

Date of Preparation: November 24, 2016

Page 05 of 06

## SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
IMO (Marine)	UN1788	Hydrobromic Acid	8	II
IATA (Air)	UN1788	Hydrobromic Acid	8	II
US DOT	UN1788	Hydrobromic Acid	8	II
Canadian TDG	UN1788	Hydrobromic Acid	8	II

**Special Precautions** Not applicable

**Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

## SECTION 15. REGULATORY INFORMATION

**Safety, Health and Environmental Regulations**

**Canada**

**Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)**

Listed on the DSL.

**USA**

**Toxic Substances Control Act (TSCA) Section 8(b)**

Listed on the TSCA Inventory.

## SECTION 16. OTHER INFORMATION

**NFPA Rating** Health - 3 Flammability - 0 Instability - 0

**SDS Prepared By** Alphachem Limited

**Phone No.** (905)-821-2995

**Date of Preparation** November 24, 2016

**Date of Last Revision** December 06, 2016

**References** CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).

**Disclaimer** This document is offered only as a guide in the safe handling of the above product, and has been prepared from the best information currently available. It is not intended to be all-inclusive and the conditions of use may involve other additional considerations. Since Alphachem Limited cannot anticipate or control the conditions under which the product may be used, it will not be liable for any claims, damages or losses which may result from the use or reliance on any information herein.