



MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Identification

1.1 Product identifiers

Product Name : Hydrobromic acid, ca.48 wt% solution in water

Cat No.: AC223320000; AC223320025; AC223325000

CAS No. : 10035-10-6

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended uses : Laboratory chemicals

Uses advised against: Food, drug, pesticide or biocidal product use.

1.3 Details of the supplier of the safety data sheet

Company : Krishna Solvechem Limited.
B/503, Sahayog, S. V. Road,
Kandivali (West), Mumbai – 400067. India.

Telephone : +91-22-6123 0222

Email : exports@kscl.co.in

1.4 Emergency telephone number

Emergency Phone : +91-8657457330

SECTION 2: Hazards identification

2.1 Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Corrosive to metals	(Category 1)
Skin Corrosion/Irritation	(Category 1 B)
Serious Eye Damage/Eye Irritation	(Category 1)
Specific target organ toxicity (single exposure)	(Category 3)
Target Organs - Respiratory system.	

2.2 Label elements

Pictogram :



Signal word Danger

Hazard statement (s) May be corrosive to metals



Precautionary statement (s)

Prevention

Causes severe skin burns and eye damage
May cause respiratory irritation

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

Inhalation :

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

IF ON SKIN (or hair):

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

Eyes:

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

Ingestion

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage:

Store in corrosive resistant polypropylene container with a resistant in liner.Store in a well-ventilated place.Keep container tightly closed



Hazards not otherwise classified (HNOC)	<p>Disposal: Dispose of contents/container to an approved waste disposal plant</p> <p>None identified</p>
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SECTION 3: Composition / information on ingredients

3.1

Component	CAS-No	Weight %
Water	7732-18-5	52
Hydrobromic acid	10035-10-6	48

SECTION 4: First aid measures

4.1 Description of first aid measures

General Advice :	Show this safety datasheet to the doctor in attendance. Immediate medical attention is required.
If inhalation :	If not breathing, give artificial respiration. Remove from exposure, lie down. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician immediately.
In case of skin contact :	Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves including inside, before re-use. Call a physician immediately.
In case of eye contact :	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Ingestion :	Clean mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.
4.2 Most important symptoms and effects :	Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation
4.3 Notes to Physician :	Treat symptomatically



SECTION 5: Firefighting effects

5.1	Extinguishing media									
	Suitable extinguishing media	CO 2, dry chemical, dry sand, alcohol-resistant foam.								
	Unsuitable Extinguishing Media: :	No information available								
5.2	Flash Point :	No information available								
	Method :	No information available								
	Autoignition Temperature:	No information available								
	Explosion Limits:									
	Upper	No data available								
	Lower	No data available								
	Sensitivity to Mechanical Impact	No information available								
	Sensitivity to Static Discharge	No information available								
	Specific Hazards Arising from the Chemical :	Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes.								
	Hazardous Combustion Products :	Halogenated compounds. Thermal decomposition can lead to release of irritating gases and vapors.								
5.4	Protective Equipment and Precautions for Firefighters:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.								
	<u>NFPA:</u>	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 25%;">Health</th> <th style="width: 25%;">Flammability</th> <th style="width: 25%;">Instability</th> <th style="width: 25%;">Physical hazards</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>0</td> <td>1</td> <td>N/A</td> </tr> </tbody> </table>	Health	Flammability	Instability	Physical hazards	3	0	1	N/A
Health	Flammability	Instability	Physical hazards							
3	0	1	N/A							



SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

Should not be released into the environment.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.

7.2 Conditions for safe storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area. Incompatible materials. Strong oxidizing agents. Metals.

SECTION 8: Exposure controls/personal protection

8.1 Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Hydrobromic acid	Ceiling: 2 ppm	(Vacated) Ceiling: 3 ppm (Vacated) Ceiling: 10 mg/m ³ TWA: 3 ppm TWA: 10 mg/m ³	IDLH: 30 ppm Ceiling: 3 ppm Ceiling: 10 mg/m ³	Ceiling: 2 ppm

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Use only under a chemical fume hood.



8.2 Exposure controls

Personal protective equipment -

Eye / Face protection

Tight sealing safety goggles. Face protection shield.

Skin protection and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice..

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: liquid, color: clear to yellow
b) Odour	pungent
c) Odour Threshold	No information available
d) pH	<1
e) Melting point / freezing point	-11 °C / 12.2 °F
f) Initial boiling point and boiling range	126 - 128 °C / 258.8 – 262.4 °F @ 760 mmHg
g) Flash point	No information available
h) Evaporation rate	No information available
i) Flammability (solid, gas)	Not applicable
j) Upper/lower flammability or explosive limits	No data available No data available
k) Vapour pressure	8 mm Hg @ 25 °C
l) Vapour density	2.8
m) Specific Gravity	1.480
n) Solubility	Soluble in water
o) Partition coefficient: n octanol/water	No data available
p) Auto-ignition temperature	No information available



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q) Decomposition temperature	No information available
r) Viscosity	No information available
s) Molecular formula	H Br
t) Molecular Weight	80.9

SECTION 10: Stability and Reactivity

10.1 Reactive Hazard :	None known, based on information available
10.2 Chemical stability :	Light sensitive. Air sensitive
10.3 Possibility of hazardous reactions :	None under normal processing.
10.4 Conditions to avoid :	Incompatible products. Excess heat. Exposure to air. Exposure to light.
10.5 Incompatible materials:	Strong oxidizing agents, metals
10.6 Hazardous decomposition products :	Halogenated compounds, thermal decomposition can lead to release of irritating gases and vapors.
10.7 Hazardous Polymerization	Hazardous polymerization does not occur.

SECTION 11: Toxicological information

11.1

Information on toxicological effects

Acute toxicity:

Product Information:

Oral LD50 Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg

Dermal LD50 Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg

Vapor LC50 Based on ATE data, the classification criteria are not met. ATE > 20 mg/l

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	-	-	-
Hydrobromic acid	Not listed	Not listed	LC50 = 2858 ppm (Rat) 1 h

Toxicologically Synergistic Products

No information available



Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation : Causes burns by all exposure routes

Sensitization: No information available

Carcinogenicity : The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed
Hydrobromic acid	10035-10-6	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects: No information available.

Reproductive Effects: No information available.

Developmental Effects : No information available.

Teratogenicity: No information available.

STOT - single exposure : Respiratory system

STOT - repeated exposure: None known

Aspiration hazard : No information available.

Symptoms / effects, both acute and delayed: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

Endocrine Disruptor Information : No information available

Other Adverse Effects : The toxicological properties have not been fully investigated.

SECTION 12: Ecological information

12.1

Ecotoxicity:

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Hydrobromic acid	EC50 = 130 mg/L 72h	LC50 = 65.04 mg/L 96h	Not listed	EC50 = 19 mg/L 48h

12.2 Persistence and degradability: Soluble in water. Persistence is unlikely based on information available

Bioaccumulation/ Accumulation No information available

12.3 Mobility: Will likely be mobile in the environment due its water solubility.



SECTION 13: Disposal considerations

13.1 Waste treatment methods: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

14.1 UN number:

DOT: UN1788 TDG: UN1788
IATA: UN1788 IMDG: UN1788

14.2 Proper shipping name

DOT: HYDROBROMIC ACID
TDG: HYDROBROMIC ACID
IATA: HYDROBROMIC ACID
IMDG: HYDROBROMIC ACID

14.3 Hazard Class

DOT: 8 TDG: 8 IATA: 8 IMDG: 8

14.4 Packing Group

DOT: II TDG: II IATA: II IMDG: II

SECTION 15: Regulatory information

15.1 United states of America Inventory:

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Water	7732-18-5	X	ACTIV E	-
Hydrobromic acid	10035-10-6	X	ACTIV E	-

Legend:



TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories:

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Water	7732-18-5	X	-	231-791-2	X	X		X	X	KE-35400
Hydrobromic acid	10035-10-6	X	-	233-113-0	X	X	X	X	X	KE-20187

U.S. Federal Regulations

SARA 313

Not applicable

SARA 311/312 Hazard Categories

See section 2 for more information

CWA (Clean Water Act)

Not applicable

Clean Air Act

Not applicable

OSHA - Occupational Safety and Health Administration

Component	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Hydrobromic acid	-	TQ: 5000 lb

CERCLA

Not applicable

California Proposition 65

This product does not contain any Proposition 65 chemicals

15.2 U.S. State Right-to-Know Regulations:

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Water	-	-	X	-	-
Hydrobromic acid	X	X	X	-	X

U.S. Department of Transportation

Reportable Quantity (RQ): N



DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland - This product contains the following DHS Chemicals.

Security

Legend - STQs = Screening Threshold Quantities, APA = A placarded amount

Component	DHS Chemical Facility Anti-Terrorism Standard
Hydrobromic acid	Theft STQs - 500lb (anhydrous)

Other International Regulations

Mexico – Grade No information available

Authorization/Restrictions according to EU REACH

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Hydrobromic acid	-	Use restricted. See item 75. (see link for restriction details)	-

Safety, health and environmental regulations/legislation specific for the substance or mixture.

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Water	7732-18-5	Listed	Not applicable	Not applicable	Not applicable
Hydrobromic acid	10035-10-6	Listed	Not applicable	Not applicable	Not applicable
Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Water	7732-18-5	Not applicable	Not applicable	Not applicable	Not applicable
Hydrobromic acid	10035-10-6	Not applicable	Not applicable	Not applicable	Annex I - Y34

SECTION 16: Other information

16.1 Prepared By: Regulatory affairs
Krishna Solvechem Ltd

Email: exports@kscl.co.in

Creation Date: 02-Sep-2010

Revision Date: 24-Dec-2021

Print Date: 24-Dec-2021

Revision Summary: This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 C FR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**16.2 Disclaimer:**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.