According to Regulation (EC) No 1907/2006

Hydrobromic acid, 48%

Version number: 2.0
Issued: 2023-10-03
Replaces SDS: 2019-09-19

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name

Hydrobromic acid, 48%

Name of the chemical

Hydrogen bromide (HBr).

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

Relevant identified uses

Research and development.

Not suitable for use in

Not suitable for human consumption or veterinary purposes.

1.3. Details of the supplier of the safety data sheet

Supplier

Molekula Group

Street address
Molekula Ltd, Lingfield Way, Darlington,
DL1 4XX Darlington
United Kingdom

Telephone
+44 (0) 3302 000 333

Email
info@molekula.com

Web site
www.molekula.com

Contact person

Kevin Banks

Email address

+44 (0) 7769276927

1.4. Emergency telephone number

Poison center/Additional emergency number

0344 892 0111 - National Poisons Information Service (Newcastle Centre)

According to Regulation (EC) No 1907/2006

Hydrobromic acid, 48%

Version number: 2.0
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Classification

Corrosive to metals, hazard category 1
Skin corrosion, hazard category 1B
Specific Target Organ Toxicity — Single exposure, hazard category 3 - respiratory tract irritation

Hazard statements

H290, H314, H335

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Danger

Hazard statements

H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

Precautionary statements

P260 Do not breathe .
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P310 Immediately call a POISON CENTER/doctor.
P363 Wash contaminated clothing before reuse.
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrase M factor acute M factor chronic	Note
Distilled water	- - - -	≥51 - ≤53%	-	- - -	-
hydrogen bromide	10035-10-6 233-113-0 01-2119479072-39 035-002-00-0	≥47 - ≤49%	Press. Gas, Met. Corr. 1, Skin Corr. 1A, STOT SE 3 - resp. tract irrit.	H280, H290, H314, H335 - -	U

Molecular weight
80.91

Substance additional information
For the complete text of H- / EUH-statements mentioned in this section, see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

IF exposed or concerned: Get medical advice/attention. First aiders/ medical personnel need to protect themselves. Show this Safety Data Sheet (SDS) to medical personnel.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. If breathing stops, provide artificial respiration. For breathing difficulties oxygen may be necessary.

Skin contact
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Immediately call a POISON CENTER/doctor.

Eye contact
Remove contact lenses if present. Rinse eyes with water. Continue to rinse for at least 15 minutes and seek medical attention.

Ingestion
IF SWALLOWED: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only if the persons are fully conscious and awake). Administer activated charcoal (20 - 40g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

Information for doctors
No data available.

4.2. Most important symptoms and effects, both acute and delayed
The severity of the symptoms described will vary dependant of the concentration and the length of exposure. Causes burns by all exposure routes.
See section 11 for more detailed information on health effects and symptoms.

Inhalation
Single exposure may cause the following adverse effects: Causes severe burns. Difficulty in breathing. Unconsciousness, possibly death.

Skin contact
Single exposure may cause the following adverse effects: Causes severe burns. Blistering may occur. May be absorbed in the body and cause dizziness, nausea and vomiting. Unconsciousness, death.

Eye contact
Single exposure may cause the following adverse effects: Causes serious eye damage. Unconsciousness, possibly death.

Ingestion
Single exposure may cause the following adverse effects: Severe abdominal pain. May cause severe internal injury. Unconsciousness, possibly death.

4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically. Immediately call a POISON CENTER/doctor.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media
Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media
No specific fire fighting procedure given.

5.2. Special hazards arising from the substance or mixture
Specific hazards: Corrosive. Not combustible.
Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Hydrogen bromide (HBr).

5.3. Advice for firefighters
Special protective equipment for fire-fighters
Evacuate area. Avoid breathing gas, fume, vapours or spray. Prevent skin contact by maintaining a safe distance and by wearing suitable protective equipment/ clothing. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Do not breathe vapour/spray. Avoid contact with skin and eyes. For personal protection, see section 8.
In case of fire: Evacuate area.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Collect with absorbent, non-combustible material into suitable containers.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

For precautions see section 2.2.

7.2. Conditions for safe storage, including any incompatibilities

Store in a dry place. Store in a closed container.
Store at ambient temperature.

Air sensitive. Light sensitive.

7.3. Specific end use(s)

No specific usage precautions noted.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure limits

Ingredient	CAS No. EC No.	Exposure limit ppm / mg/m³	Short-term exposure limit ppm / mg/m³	Source	Remark	Year
Hydrogen Bromide	10035-10-6 233-113-0	- -	3 10	-	UK EH40 WEL	-

DNEL/DMEL

Product/Substance name (CAS No./EC No.)	Type	Exposure	Value	Population	Effects
hydrogen bromide (10035-10-6/233-113-0)	DNEL	Acute (short term) Inhalation	6.7 mg/m³	Workers	Local
hydrogen bromide (10035-10-6/233-113-0)	DNEL	Acute (short term) Inhalation	6.7 mg/m³	Workers	Systemic
hydrogen bromide (10035-10-6/233-113-0)	DNEL	Chronic (long term) Inhalation	6.7 mg/m³	Workers	Local
hydrogen bromide (10035-10-6/233-113-0)	DNEL	Chronic (long term) Inhalation	6.7 mg/m³	Workers	Systemic

8.2. Exposure controls

Personal Protective Equipment Symbols

Eye / face protection

Wear eye protection.

Hand protection

Wear protective gloves. Recommended gloves: Nitrile.
Glove Thickness: 0.11mm
Breakthrough time: 8 hours

Always inspect gloves before use. If signs of wear and tear are noticed then the gloves should be replaced.

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. Wash contaminated skin thoroughly after handling.

Other skin protection

Wash skin thoroughly after handling.

Respiratory protection

Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided.

Environmental exposure controls

Avoid discharge into drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Liquid

Hydrobromic acid, 48%

Colour
Light brown.

Odour
Pungent.

Melting point / freezing point
-11 °C

Boiling point or initial boiling point and boiling range
126 - 128 °C

Flammability
No data available

Lower and upper explosion limit
No data available

Flash point
No data available

Auto-ignition temperature
No data available

Decomposition temperature
No data available

pH
< 1

Kinematic viscosity
No data available

Solubility
Miscible with water.

Partition coefficient n-octanol/water
No data available

Vapour pressure
No data available

Density and/or relative density
1.48

Relative vapour density
2.8

Particle characteristics
No data available

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Air sensitive. Light sensitive.

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

Avoid heat. Air. Light.

10.5. Incompatible materials

Strong oxidising agents. Strong bases Metals.

10.6. Hazardous decomposition products

See section 5.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

No data available

SECTION 12: Ecological information

12.1. Toxicity

Acute fish toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
hydrogen bromide 10035-10-6 / 233-113-0	EC50	19mg/l	48 hours	Daphnia magna
hydrogen bromide 10035-10-6 / 233-113-0	EC50	56mg/l	48 hours	Pseudokirchneriella sub-capitata

12.2. Persistence and degradability
No data available

12.3. Bioaccumulative potential
No data available

12.4. Mobility in soil
No data available

12.5. Results of PBT and vPvB assessment
No data available

12.6. Endocrine disrupting properties
This substance/mixture contains components considered to have endocrine disrupting properties for environment , according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

12.7. Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Disposal considerations
Dispose of contents/container in accordance with local regulations.

SECTION 14: Transport information

14.1. UN number
1788

14.2. UN proper shipping name
ADR / RID / ADN proper shipping name
HYDROBROMIC ACID

IMDG proper shipping name
HYDROBROMIC ACID

IATA proper shipping name
Hydrobromic acid 49% or less strength

Hydrobromic acid, 48%

Version number: 2.0
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14.3. Transport hazard class(es)

Label

ADR/RID/ADN

8

IMDG

8

IATA

8

ADR / RID Class

8

ADR / RID Classification code

C1

ADR / RID hazard identification number

80

IMDG Class

8

IATA Class

8

ADN Class

8

ADN Class Code

C1

14.4. Packing group

ADR / RID / ADN: II
IMDG: II
IATA: II

14.5. Environmental hazards

IMDG EmS

F-A, S-B

14.6. Special precautions for user

Tunnel restriction code: E
Transport category: 2

14.7. Maritime transport in bulk according to IMO instruments

IBC Instruction: IBC02

SECTION 15: Regulatory information

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

EU regulations

This SDS is not mandated under REACH Regulation (EC) No 1907/2006 and is provided for information only.

National regulations

No data available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Phrase meaning

Met. Corr. 1 - Corrosive to metals, hazard category 1
Skin Corr. 1B - Skin corrosion, hazard category 1B
STOT SE 3 - resp. tract irrit. - Specific Target Organ Toxicity — Single exposure, hazard category 3 - respiratory tract irritation
Press. Gas - Gases under pressure, Liquefied gas
Skin Corr. 1A - Skin corrosion, hazard category 1A
H280 Contains gas under pressure; may explode if heated.
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.