

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/09/2024

Reviewed on 07/08/2024

## 1 Identification

- **Product identifier**
- **Trade name:** Hydrochloric acid solution
- **Article number:** 134060
- **CAS Number:** 16828-11-8
- **EINECS Number:** 231-595-7
- **Application of the substance / the mixture** Laboratory chemicals for research and development
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 BeanTown Chemical  
 9 Sagamore Park Road  
 Hudson, NH 03051  
 USA
- **Phone:** (603) 402-2234  
**Fax:** (603) 402-9713  
**Email:** [technical@beantownchem.com](mailto:technical@beantownchem.com)  
[www.beantownchem.com](http://www.beantownchem.com)
- **Information department:** Technical Support Department
- **Emergency telephone number:**  
 During normal operating hours, please call (603) 402-2234  
 After hours, please call Chemtrec at (800) 424-9300

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05



GHS07

- **Signal word** *Danger*
- **Hazard-determining components of labeling:**  
hydrochloric acid
- **Hazard statements**  
 Causes skin irritation.  
 Causes serious eye damage.

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May cause respiratory irritation.

· **Precautionary statements**

*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*

*Immediately call a poison center/doctor.*

*Specific treatment (see on this label).*

*Take off contaminated clothing and wash it before reuse.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

hydrochloric acid

18.2%

### 4 First-aid measures

· **Description of first aid measures**

· **General information:** Immediately remove any clothing soiled by the product.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:** Immediately rinse with water.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:** If symptoms persist consult doctor.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### 5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

· **Special hazards arising from the substance or mixture** No further relevant information available.

· **Advice for firefighters**

· **Protective equipment:** No special measures required.

### 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

*Wear protective equipment. Keep unprotected persons away.*

· **Environmental precautions:**

*Dilute with plenty of water.*

*Do not allow to enter sewers/ surface or ground water.*

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- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· <b>PAC-1:</b>	
hydrochloric acid	1.8 ppm
· <b>PAC-2:</b>	
hydrochloric acid	22 ppm
· <b>PAC-3:</b>	
hydrochloric acid	100 ppm

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:**  
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute
  - **Control parameters**
  - **Components with limit values that require monitoring at the workplace:**
- |                          |                                                     |
|--------------------------|-----------------------------------------------------|
| <b>hydrochloric acid</b> |                                                     |
| PEL                      | Ceiling limit value: 7 mg/m <sup>3</sup> , 5 ppm    |
| REL                      | Ceiling limit value: 7 mg/m <sup>3</sup> , 5 ppm    |
| TLV                      | Ceiling limit value: 2.98 mg/m <sup>3</sup> , 2 ppm |
- **Additional information:** The lists that were valid during the creation were used as basis.
  - **Exposure controls**
  - **Personal protective equipment:**
  - **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.

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Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Tightly sealed goggles

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

**Form:** Liquid

**Color:** According to product specification

· **Odor:** Characteristic

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

**Melting point/Melting range:** Undetermined

**Boiling point/Boiling range:** Undetermined

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

**Lower:** Not determined.

**Upper:** Not determined.

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)

· **Density:** Not determined.

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

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- |                                                   |                                            |
|---------------------------------------------------|--------------------------------------------|
| <b>· Solubility in / Miscibility with Water:</b>  | Fully miscible.                            |
| <b>· Partition coefficient (n-octanol/water):</b> | Not determined.                            |
| <b>· Viscosity:</b>                               |                                            |
| <b>Dynamic:</b>                                   | Not determined.                            |
| <b>Kinematic:</b>                                 | Not determined.                            |
| <b>· Solvent content:</b>                         |                                            |
| <b>Water:</b>                                     | 81.8 %                                     |
| <b>VOC content:</b>                               | 0.00 %                                     |
|                                                   | 0.0 g/l / 0.00 lb/gal                      |
| <b>· Solids content:</b>                          | 0.0 %                                      |
| <b>· Other information</b>                        | No further relevant information available. |

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

hydrochloric acid

Oral	LD50	900 mg/kg (rabbit)
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- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

hydrochloric acid	3
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- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
*Water hazard class 1 (Self-assessment): slightly hazardous for water*  
*Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.*  
*Must not reach bodies of water or drainage ditch undiluted or unneutralized.*
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
*Must not be disposed of together with household garbage. Do not allow product to reach sewage system.*
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

· <b>UN-Number</b>	
· <b>DOT, IMDG, IATA</b>	UNI789
· <b>UN proper shipping name</b>	
· <b>DOT</b>	Hydrochloric acid solution
· <b>IMDG, IATA</b>	HYDROCHLORIC ACID solution
· <b>Transport hazard class(es)</b>	
· <b>DOT, IMDG, IATA</b>	
· <b>Class</b>	8 Corrosive substances
· <b>Label</b>	8
· <b>Packing group</b>	
· <b>DOT, IMDG, IATA</b>	II
· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	Warning: Corrosive substances

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- |                                                                                  |                                                                                                                 |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>· Hazard identification number (Kemler code):</b>                             | 80                                                                                                              |
| <b>· EMS Number:</b>                                                             | F-A,S-B                                                                                                         |
| <b>· Segregation groups</b>                                                      | Strong acids                                                                                                    |
| <b>· Stowage Category</b>                                                        | C                                                                                                               |
| <b>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.                                                                                                 |
| <b>· Transport/Additional information:</b>                                       |                                                                                                                 |
| <b>· DOT</b>                                                                     |                                                                                                                 |
| <b>· Quantity limitations</b>                                                    | On passenger aircraft/rail: 1 L<br>On cargo aircraft only: 30 L                                                 |
| <hr style="border-top: 1px dashed black;"/>                                      |                                                                                                                 |
| <b>· IMDG</b>                                                                    |                                                                                                                 |
| <b>· Limited quantities (LQ)</b>                                                 | 1L                                                                                                              |
| <b>· Excepted quantities (EQ)</b>                                                | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| <b>· UN "Model Regulation":</b>                                                  | UN 1789 HYDROCHLORIC ACID SOLUTION, 8, II                                                                       |

## 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture**  
No further relevant information available.
- Sara**

**· Section 355 (extremely hazardous substances):**

hydrochloric acid

**· Section 313 (Specific toxic chemical listings):**

hydrochloric acid

**· TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

**· Hazardous Air Pollutants**

hydrochloric acid

**· Proposition 65**

**· Chemicals known to cause cancer:**

None of the ingredients is listed.

**· Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

**· Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

**· Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

**· Carcinogenic categories**

**· EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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· **TLV (Threshold Limit Value)**

hydrochloric acid

A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **RTECS**

None of the ingredients is listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **NFPA ratings (scale 0-4)**

Health = 3

Fire = 0

Reactivity = 0

· **HMIS ratings (scale 0-4)**

Health = \*3

Fire = 0

Reactivity = 0

· **Department issuing SDS:** Technical Support Department

· **Contact:** Technical Support Department

· **Date of preparation / last revision** 07/09/2024 / -

· **Abbreviations and acronyms:**

*ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*VOC: Volatile Organic Compounds (USA, EU)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*NIOSH: National Institute for Occupational Safety*

*OSHA: Occupational Safety & Health*

*TLV: Threshold Limit Value*

*PEL: Permissible Exposure Limit*

*REL: Recommended Exposure Limit*

*Skin Irrit. 2: Skin corrosion/irritation – Category 2*

*Eye Dam. 1: Serious eye damage/eye irritation – Category 1*

*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*