

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/15/2024

Reviewed on 08/15/2024

## 1 Identification

- **Product identifier**
- **Trade name:** Hydrochloric Acid, 0.5 Normal  
NIST Traceable (Phenolphthalein e.p.)
- **Article number:** EQS047
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Aqua Solutions, Inc.  
6913 Highway 225  
DEER PARK, TX 77536  
USA  
800-256-2586
- **Information department:**  
Technical Coordinator  
Sherman Nelson [shermann@aquasolutions.org](mailto:shermann@aquasolutions.org)  
Technical Coordinator  
Sherman Nelson [shermann@aquasolutions.org](mailto:shermann@aquasolutions.org)
- **Emergency telephone number:**  
Chemirec: 800-424-9300  
Canutec: 613-996-6666



## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Specific Target Organ Toxicity - Repeated Exposure 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Skin Corrosion 1A  
Eye Damage 1

H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.

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



GHS05



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
Hydrochloric Acid
- **Hazard statements**  
Causes severe skin burns and eye damage.  
May cause damage to organs through prolonged or repeated exposure.

(Contd. on page 2)

US

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(Contd. of page 1)

- **Precautionary statements**

*Do not breathe dusts or mists.*

*Wash thoroughly after handling.*

*Wear protective gloves/protective clothing/eye protection/face protection.*

*If swallowed: Rinse mouth. Do NOT induce vomiting.*

*If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*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).*

*Get medical advice/attention if you feel unwell.*

*Wash contaminated clothing before reuse.*

*Store locked up.*

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

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 3

Fire = 0

Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = \*3

Fire = 0

Reactivity = 0

- **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:**

CAS: 7647-01-0	Hydrochloric Acid	4.743%
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- **Table of Nonhazardous Ingredients**

CAS: 7732-18-5	Water	95.257%
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## \* 4 First-aid measures

- **Description of first aid measures**

- **General information:**

*Immediately remove any clothing soiled by the product.*

*Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.*

· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

(Contd. on page 3)

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(Contd. of page 2)

- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Drink copious amounts of water and provide fresh air. Immediately call a 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**  
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **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 section 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**

- **PAC-1:**

CAS: 7647-01-0	Hydrochloric Acid	1.8 ppm
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- **PAC-2:**

CAS: 7647-01-0	Hydrochloric Acid	22 ppm
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- **PAC-3:**

CAS: 7647-01-0	Hydrochloric Acid	100 ppm
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## 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:** Keep respiratory protective device available.

(Contd. on page 4)

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(Contd. of page 3)

- **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:** No further data; see section 7.
- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

**CAS: 7647-01-0 Hydrochloric Acid**

NIOSH RECOMENDED EXP LIMIT	Ceiling limit value: 7.0 mg/m <sup>3</sup> mg/m <sup>3</sup>
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 ppm A4

- **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.
  - Wash hands before breaks and at the end of work.
  - Store protective clothing separately.
  - 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.

(Contd. on page 5)

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(Contd. of page 4)

· **Eye protection:**

Tightly sealed goggles

· **Body protection:** Protective work clothing

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	Not determined.

· **pH-value at 20 °C (68 °F):** <2· **Change in condition**

<b>Melting point/Melting range:</b>	0 °C (32 °F)
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)

· **Flash point:** Not applicable.· **Flammability (solid, gaseous):** Not applicable.· **Decomposition temperature:** Not determined.· **Ignition temperature:** Product is not selfigniting.· **Danger of explosion:** Product does not present an explosion hazard.· **Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)· **Density at 20 °C (68 °F):** 1.00623 g/cm<sup>3</sup> (8.39699 lbs/gal)· **Relative density** Not determined.· **Vapor density** Not determined.· **Evaporation rate** Not determined.· **Solubility in / Miscibility with**· **Water:** Fully miscible.· **Partition coefficient (n-octanol/water):** Not determined.· **Viscosity:**

<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.

· **Solvent content:**

<b>Water:</b>	95.3 %
<b>VOC content:</b>	0.00 %
	0.0 g/l / 0.00 lb/gal

(Contd. on page 6)

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(Contd. of page 5)

<b>Solids content:</b>	0.0 %
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<b>Other information</b>	No further relevant information available.
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## 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:**
- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:**  
 Strong caustic effect.  
 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:  
 Corrosive  
 Irritant  
 Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **Carcinogenic categories**

<b>IARC (International Agency for Research on Cancer)</b>
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None of the ingredients is listed.
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<b>NTP (National Toxicology Program)</b>
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None of the ingredients is listed.
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<b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>
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None of the ingredients is listed.
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## 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.

(Contd. on page 7)

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(Contd. of page 6)

- **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.*

*Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.*

- **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

- **UN-Number**

- **DOT, IMDG, IATA**

UN1789

- **UN proper shipping name**

- **DOT**

Hydrochloric acid solution

- **IMDG, IATA**

HYDROCHLORIC ACID solution

- **Transport hazard class(es)**

- **DOT**



- **Class**

8 Corrosive substances

- **Label**

8

- **IMDG, IATA**



- **Class**

8 Corrosive substances

- **Label**

8

- **Packing group**

- **DOT, IMDG, IATA**

III

(Contd. on page 8)

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(Contd. of page 7)

- |  |  |
|--|--|
| <b>· Environmental hazards:</b>  |  |
| <b>· Marine pollutant:</b>   | No   |
| <b>· Special precautions for user</b>  | Warning: Corrosive substances              |
| <b>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.                            |
| <b>· UN "Model Regulation":</b>  | UN 1789 HYDROCHLORIC ACID SOLUTION, 8, III |

## 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):**

None of the ingredients is listed.

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

None of the ingredients is listed.

- TSCA (Toxic Substances Control Act):**

Water

ACTIVE

Hydrochloric Acid

ACTIVE

- Hazardous Air Pollutants**

CAS: 7647-01-0 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.

- TLV (Threshold Limit Value)**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

(Contd. on page 9)



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(Contd. of page 8)

· **Hazard pictograms**



GHS05 GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

*Hydrochloric Acid*

· **Hazard statements**

*Causes severe skin burns and eye damage.*

*May cause damage to organs through prolonged or repeated exposure.*

· **Precautionary statements**

*Do not breathe dusts or mists.*

*Wash thoroughly after handling.*

*Wear protective gloves/protective clothing/eye protection/face protection.*

*If swallowed: Rinse mouth. Do NOT induce vomiting.*

*If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*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).*

*Get medical advice/attention if you feel unwell.*

*Wash contaminated clothing before reuse.*

*Store locked up.*

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

· **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.*

· **Department issuing SDS:** *Environment protection department.*

· **Contact:**

*Date of Preparation / Last Revision:*

· **Date of preparation / last revision**

*Revision 1.2, 08-15-2024: Reviewed SDS for accuracy. STN/GW*

*Revision 0.0 Creation date for SDS 12-03-2014. STN*

*08/15/2024 / 1.1*

· **Abbreviations and acronyms:**

*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)*

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

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

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*NIOSH: National Institute for Occupational Safety*

(Contd. on page 10)

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(Contd. of page 9)

*OSHA: Occupational Safety & Health**TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**Skin Corrosion 1A: Skin corrosion/irritation – Category 1A**Eye Damage 1: Serious eye damage/eye irritation – Category 1**Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2***\* Data compared to the previous version altered.**

US