

Safety Data Sheet
according to 1907/2006/EC, Article 31

Version number 7

Revision: 09.09.2019

SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Identifier:

Trade name: Hydrochloric Acid Solution

Synonyms: 7.4% w/v from Hydrochloric Acid, 2M Hydrochloric Acid

Altus Science Individual Product Reference: A-4300, A-5950

Altus Science Kit Reference: A-3560

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

Product category: PC0 Other

Application of the substance / the mixture: Remainder

1.3 Details of the supplier of the safety data sheet:

Manufacturer / Importer / Supplier:

Altus Science Limited

Park House, Manor Park Avenue

Manor Park

Runcorn, Cheshire, WA7 1TL

United Kingdom

Telephone: +44 (0) 1928 238 000

Email address: info@altusscience.com

Further information obtainable from: Product safety department.

1.4 Emergency telephone number:

Tel. +44(0) 1928 238 000

This telephone number can be reached during office hours.

SECTION 2: Hazards Identification

2.1 Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008:



GHS05 corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

2.2 Label elements:

Labelling according to Regulation (EC) No 1272/2008:

The substance is classified and labelled according to the CLP regulation.

Hazard pictograms: GHS05

Signal word: Danger

Hazard-determining components of labelling:

Hydrochloric acid \geq 30%

Hazard statements:

H314 Causes severe skin burns and eye damage.

Precautionary statements:

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards:

Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/Information on Ingredients

3.2 Chemical characterisation: Mixtures:

Description: Hydrochloric Acid Solution

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Components:		
CAS: 7647-01-0 EINECS: 231-595-7 Index number: 017-002-01-X Reg.nr.: 01-2119484862-27	Hydrochloric acid \geq 30% ☠ Skin Corr. 1A, H314; ☠ STOT SE 3, H335	5-10%
CAS: 7732-18-5 EINECS: 231-791-2	Water, distilled, conductivity or of similar purity	\geq 90%

Additional information: For the wording of the listed hazard phrases See section 16.

SECTION 4: First Aid Measures

4.1 Description of first aid measures:

General information: In the event of exposure, show Safety Data Sheet to a Doctor.

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

After skin contact:

Take off contaminated clothing immediately and wash the skin with plenty of water (possibly showering).
If skin irritation continues, consult a doctor.

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

After ingestion:

Rinse Mouth.

Seek immediate medical advice.

4.2 Most important symptoms and effects, both acute and delayed: No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed:

No further relevant information available.

SECTION 5: Firefighting Measures

5.1 Extinguishing media:

Suitable extinguishing agents:

Use fire extinguishing methods suitable to surrounding conditions.
All extinguishing media are possible.

5.2 Special hazards arising from the substance or mixture:

During heating or in case of fire poisonous gases are produced.

5.3 Advice for firefighters:

Protective equipment:

Mouth respiratory protective device.

Wear self-contained respiratory protective device.

Additional information: Cool endangered tanks with water spray.

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions:

Remainder dilute with plenty of water.

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

6.3 Methods and material for containment and cleaning up:

Spills of the product could present a significant slip hazard depending on quantity and surface type.

Water contaminated with this product may be sent to a sanitary sewer treatment facility, or a permitted waste treatment facility, in accordance with any local agreements

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dilute the liquid spill immediately with plenty of water and neutralize with base. (Eg. Sodium carbonate)

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

Dilute remainder with plenty of water.

6.4 Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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SECTION 7: Handling and Storage

7.1 Precautions for safe handling:

Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

Information about fire and explosion protection: Keep respiratory protective device available.

7.2 Conditions for safe storage, including any incompatibilities: Storage must comply with the local regulations.

Storage:

Requirements to be met by storerooms and tanks: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep container tightly sealed.

7.3 Specific end use(s): For professional and industrial users only

SECTION 8: Exposure Controls/Personal Protection

Additional information about design of technical facilities: No further data; see section 7.

8.1 Control parameters:

Ingredients with limit values that require monitoring at the workplace:	
7647-01-0 Hydrochloric acid ≥ 30%	
WEL (Great Britain)	Short-term value: 8 mg/m ³ , 5 ppm Long-term value: 2 mg/m ³ , 1 ppm (gas and aerosol mists)
IOELV (EU)	Short-term value: 15 mg/m ³ , 10 ppm Long-term value: 8 mg/m ³ , 5 ppm

Additional information: The lists valid during the making were used as basis.

8.2 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.
Avoid contact with the eyes and skin.

Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Protection of hands:



Protective gloves

Only use chemical-protective gloves with CE-labelling of category III.

Use protective gloves to DIN EN374-3

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

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.

Neoprene gloves

Thickness: 18 mil / 0.46 mm

Penetration time of glove material: Permeation: Breakthrough time - > 480 min

Eye protection:



Tightly sealed goggles

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Body protection: Protective work clothing
Limitation and supervision of exposure into the environment: Prevent spills from reaching surface waters or soil.

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SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties:

General Information:

Appearance:

Form: Liquid.
Colour: Colourless.
Odour: Odourless.
Odour threshold: Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range: 0 °C
Boiling point/Boiling range: 100 °C

Flash point: Not applicable.

Flammability (solid, gaseous): Not applicable.

Ignition temperature:

Decomposition temperature: Not determined.

Self-igniting: Product is not self-igniting.

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

Explosion limits:

Lower: Not determined.
Upper: Not determined.

Vapour pressure at 20 °C: 23 hPa

Density at 20 °C: 1.015 g/cm³
Relative density: Not determined.
Vapour density: Not determined.
Evaporation rate: Not determined.

Solubility in / Miscibility with:

Water: Fully miscible.

Partition coefficient (n-octanol/water): Not determined.

Viscosity:

Dynamic: Not determined.
Kinematic: Not determined.

Solvent content:

Organic solvents: 0.0 %
Water: 90.1 %
Oxidizing properties: Does not contain oxidizing properties.

9.2 Other information: No further relevant information available.

SECTION 10: Stability and Reactivity

10.1 Reactivity: Reacts violently with bases.

10.2 Chemical stability:

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

10.3 Possibility of hazardous reactions: No dangerous reactions known.

10.4 Conditions to avoid: No further relevant information available.

10.5 Incompatible materials: Strong bases

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10.6 Hazardous decomposition products:

Hydrogen chloride (HCl)

Chlorine

SECTION 11: Toxicological Information

11.1 Information on toxicological effects:

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

LD/LC50 values relevant for classification:

Oral	LD50	>5000 mg/kg (Rat)
Dermal	LD50	>5000 mg/kg (rbt)

7647-01-0 Hydrochloric acid ≥ 30%

Oral	LD50	900 mg/kg (rbt)
Dermal	LD50	1449 mg/kg (Mouse)

Primary irritant effect:

Skin corrosion/irritation:

Causes severe skin burns and eye damage.

Serious eye damage/irritation:

Causes serious eye damage.

Respiratory or skin sensitization: Based on available data, the classification criteria are not met.

CMR effects (carcinogenic, mutagenic and reprotoxic):

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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

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

STOT-single exposure: Based on available data, the classification criteria are not met.

STOT-repeated exposure: Based on available data, the classification criteria are not met.

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

SECTION 12: Ecological Information

12.1 Toxicity:

The product components are not classified as dangerous for the environment or the quantities are not relevant. Larger or frequent spills can be dangerous or harmful to the environment.

Aquatic toxicity:

7647-01-0 Hydrochloric acid ≥ 30%

LC50/96h	282 mg/l (Fish)
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12.2 Persistence and degradability: No further relevant information available.

12.3 Bioaccumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

Additional ecological information:

General notes:

Generally not hazardous for water

Must not reach sewage water or drainage ditch undiluted or unneutralised.

12.5 Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

SECTION 13: Disposal Considerations

13.1 Waste treatment methods:

Recommendation:

Dilute concentrate with water and neutralise afterwards with suitable alkali material (sodium hydroxide solution, lime). The formed neutral salts are relatively environment-friendly.

European waste catalogue:

16 03 03

16 Waste not otherwise specified in the list

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16 03 Off-specification batches and unused products
 16 03 03 Inorganic waste containing dangerous substances
 Depending on the origin and state of waste, other EWC numbers may be applicable too
 15 01 02
 15 Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified
 15 01 Packaging (including separately collected municipal packaging waste)
 15 01 02 Plastic packaging

Contaminated packaging:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport Information

14.1 UN-Number: ADR,RID,ADN, IMDG, IATA	UN1789
14.2 UN proper shipping name: ADR/RID/ADN: IMDG: IATA:	1789 HYDROCHLORIC ACID solution HYDROCHLORIC ACID solution Hydrochloric acid solution
14.3 Transport hazard class(es): ADR/RID/ADN:	
Class: Label:	8 (C1) Corrosive substances. 8
IMDG, IATA	
Class: Label:	8 Corrosive substances. 8
14.4 Packing group: ADR,RID,ADN, IMDG, IATA	III
14.5 Environmental hazards: Marine pollutant:	No
14.6 Special precautions for user: Danger code (Kemler): EMS Number: Segregation groups Stowage Category	Warning: Corrosive substances. 80 F-A,S-B Acids E
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:	Not applicable.
Transport/Additional information:	
ADR/RID/ADN: Limited quantities (LQ): Excepted quantities (EQ):	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
Transport category:	3

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Tunnel restriction code:	E
IMDG:	
Limited quantities (LQ):	5L
Excepted quantities (EQ):	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
UN "Model Regulation":	UN 1789 HYDROCHLORIC ACID SOLUTION, 8, III

SECTION 15: Regulatory Information

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

Directive 2012/18/EU:

Named dangerous substances - ANNEX I: Hydrochloric acid

REGULATION (EC) No 1907/2006 ANNEX XVII: Conditions of restriction: 3

National regulations: Not applicable

Water hazard class: Generally not hazardous for water.

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

SECTION 16: Other Information

Relevant phrases:

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

Training hints: Provide training on safe handling considering the type of application and exposure scenarios.

Department issuing SDS: Environment protection department.

Abbreviations and acronyms:

ADN: Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

EC50: Effective Concentration, 50 percent

IOELVS: Indicative Occupational Exposure Limit Values

mPa.s: milliPascal per second

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

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

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

References:

This information is based on the current available data (suppliers of raw materials, chemistry maps, Annex VI)

See also the internet site: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Revisions were made in sections marked with *.

Disclaimer:

The information believed to be accurate within this document and is intended only as a guide to the appropriate precautionary handling of this substance by a properly trained person using this product. The information relates only to the specific material designated and does not relate to its use in combination with other materials. The user is responsible for determining whether Altus Science products are fit for a particular purpose and suitable to the users method of use or application.

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