

safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



Hydrochloric acid 25%, extra pure

article number: **X897**
Version: **1.0 en**

date of compilation: 2015-11-26

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

1.1 Product identifier

| | |
|---------------------------------|--------------------------|
| Identification of the substance | Hydrochloric acid |
| Article number | X897 |
| Registration number (REACH) | not relevant (mixture) |

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

Identified uses: laboratory chemical

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

Telephone: +49 (0) 721 - 56 06 0

Telefax: +49 (0) 721 - 56 06 149

e-mail: sicherheit@carlroth.de

Website: www.carlroth.de

Competent person responsible for the safety data sheet : Department Health, Safety and Environment

e-mail (competent person) : sicherheit@carlroth.de

1.4 Emergency telephone number

Emergency information service **Poison Centre Munich: +49/(0)89 19240**

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

| Classification acc. to GHS | | | |
|----------------------------|---|---------------------------|------------------|
| Section | Hazard class | Hazard class and category | Hazard statement |
| 2.16 | substance or mixture corrosive to metals | (Met. Corr. 1) | H290 |
| 3.2 | skin corrosion/irritation | (Skin Corr. 1B) | H314 |
| 3.8R | specific target organ toxicity - single exposure (respiratory tract irritation) | (STOT SE 3) | H335 |

Remarks

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

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2.2 Label elements

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

Signal word

Danger

Pictograms



Hazard statements

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

Precautionary statements

Precautionary statements - prevention

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

Precautionary statements - response

| | |
|----------------|--|
| 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. |
| P310 | Immediately call a POISON CENTER/doctor. |

Labelling of packages where the contents do not exceed 125 ml

Signal word: **Danger**

Symbol(s)



| | |
|----------------|--|
| H314 | Causes severe skin burns and eye damage. |
| 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. |
| P304+P340 | IF INHALED: Remove person to fresh air and keep at rest in a position 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. |
| P310 | Immediately call a POISON CENTER/doctor. |

2.3 Other hazards

There is no additional information.

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SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description of the mixture

Composition/information on ingredients.

| Name of substance | Identifier | wt% | Classification acc. to 1272/2008/EC | Pictograms | Specific Conc. Limits |
|-------------------|--|------|--|---|--|
| hydrochloric acid | EC No 231-595-7 Index No 017-002-01-X | ≥ 25 | Met. Corr. 1 / H290 Skin Corr. 1B / H314 Eye Dam. 1 / H318 STOT SE 3 / H335 |   | Skin Corr. 1B; H314: C ≥ 25 % Skin Irrit. 2; H315: 10 % ≤ C < 25 % Eye Dam. 1; H318: C ≥ 25 % Eye Irrit. 2; H319: 10 % ≤ C < 25 % STOT SE 3; H335: C ≥ 10 % |

Remarks

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off immediately all contaminated clothing. Self-protection of the first aider.

Following inhalation

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Following skin contact

After contact with skin, wash immediately with plenty of water. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes hold-
ing eyelids apart and consult an ophthalmologist. Protect uninjured eye.

Following ingestion

Rinse mouth immediately and drink plenty of water. If swallowed danger of perforation of the eso-
phagus and the stomach (strong corrosive effects). Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Irritation, Corrosion, Cough, Breathing difficulties, Cardiac arrhythmias, Risk of blindness, Gastric per-
foration

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4.3 Indication of any immediate medical attention and special treatment needed
none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings
water spray, foam, dry extinguishing powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

The product itself does not burn.

Hazardous combustion products

May produce toxic fumes of carbon monoxide if burning.

5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Do not breathe vapour/spray. Avoid contact with skin and eyes. Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

6.2 Environmental precautions

Keep away from drains, surface and ground water. The product is an acid. Before discharge into sewage plants the product normally needs to be neutralised.

6.3 Methods and material for containment and cleaning up

Advices on how to contain a spill

Covering of drains.

Advices on how to clean up a spill

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8.
Incompatible materials: see section 10. Disposal considerations: see section 13.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use extractor hood (laboratory). Handle and open container with care. When diluting/dissolving, always have the water ready first, then slowly stir in the product. Clear contaminated areas thoroughly.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs. Wash hands before breaks and after work.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in the original container. Keep container tightly closed.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice

- **Ventilation requirements**

Use local and general ventilation.

- **Specific designs for storage rooms or vessels**

Recommended storage temperature: 15 - 25 °C.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

8.2 Exposure controls

Individual protection measures (personal protective equipment)



Eye/face protection

Use safety goggle with side protection. Wear face protection.

Skin protection

- **hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- **type of material**

NBR (Nitrile rubber)

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- **material thickness**

>0,3 mm.

- **breakthrough times of the glove material**

>480 minutes (permeation: level 6)

- **other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection

Respiratory protection necessary at: Aerosol or mist formation. Type: E (against acidic gases like sulphur dioxide or hydrogen chloride, colour code: Yellow).

Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

Environmental exposure controls

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

| | |
|-----------------|---------------------------|
| Physical state | liquid (fluid) |
| Colour | colourless - light yellow |
| Odour | stinging |
| Odour threshold | No data available |

Other physical and chemical parameters

| | |
|---|--|
| pH (value) | <1 |
| Melting point/freezing point | -70 °C |
| Initial boiling point and boiling range | 107 °C |
| Flash point | not determined |
| Evaporation rate | no data available |
| Flammability (solid, gas) | not relevant (fluid) |
| <u>Explosive limits</u> | |
| • lower explosion limit (LEL) | this information is not available |
| • upper explosion limit (UEL) | this information is not available |
| Explosion limits of dust clouds | not relevant |
| Vapour pressure | This information is not available. |
| Density | 1,12 g/cm ³ |
| Vapour density | This information is not available. |
| Bulk density | Not applicable |
| Relative density | Information on this property is not available. |

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Solubility(ies)

Water solubility miscible in any proportion

Partition coefficient

n-octanol/water (log KOW) This information is not available.

Auto-ignition temperature Information on this property is not available.

Decomposition temperature no data available

Viscosity not determined

Explosive properties none

Oxidising properties none

9.2 Other information

There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

substance or mixture corrosive to metals

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: Amines, Aldehydes, Permanganates, Aluminium, Alkali metals, Carbide, Fluorine, Metals, Alkali (lye), Sulphuric acid, concentrated,
=> Explosive properties

10.4 Conditions to avoid

Keep away from heat.

10.5 Incompatible materials

different metals

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

Skin corrosion/irritation

Causes severe burns.

Serious eye damage/eye irritation

Causes serious eye damage.

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Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

• Specific target organ toxicity - single exposure

May cause respiratory irritation.

• Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects)

• If in eyes

causes burns, Causes serious eye damage, risk of blindness

• If inhaled

Irritation to respiratory tract, cough, breathing difficulties

• If on skin

causes severe burns, causes poorly healing wounds

Other information

Other adverse effects: Cardiac arrhythmias. Symptoms can occur only after several hours.

SECTION 12: Ecological information

12.1 Toxicity

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

12.2 Process of degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Other adverse effects

Slightly hazardous to water.

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

SECTION 14: Transport information

| | | |
|------|--|--|
| 14.1 | UN number | 1789 |
| 14.2 | UN proper shipping name | HYDROCHLORIC ACID |
| | Hazardous ingredients | Hydrochloric acid |
| 14.3 | Transport hazard class(es) | |
| | Class | 8 (corrosive substances) |
| 14.4 | Packing group | II (substance presenting medium danger) |
| 14.5 | Environmental hazards | none (non-environmentally hazardous acc. to the dangerous goods regulations) |
| 14.6 | Special precautions for user | |
| | Provisions for dangerous goods (ADR) should be complied within the premises. | |
| 14.7 | Transport in bulk according to Annex II of MARPOL and the IBC Code | |
| | The cargo is not intended to be carried in bulk. | |
| 14.8 | Information for each of the UN Model Regulations | |
| | • Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) | |
| | UN number | 1789 |
| | Proper shipping name | HYDROCHLORIC ACID |
| | Particulars in the transport document | UN1789, HYDROCHLORIC ACID, mixture, 8, II, (E) |
| | Class | 8 |
| | Classification code | C1 |
| | Packing group | II |
| | Danger label(s) | 8 |

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| | |
|-------------------------------|-----|
| Special provisions (SP) | 520 |
| Excepted quantities (EQ) | E2 |
| Limited quantities (LQ) | 1 L |
| Transport category (TC) | 2 |
| Tunnel restriction code (TRC) | E |
| Hazard identification No | 80 |

• International Maritime Dangerous Goods Code (IMDG)

| | |
|--|---|
| UN number | 1789 |
| Proper shipping name | HYDROCHLORIC ACID |
| Particulars in the shipper's declaration | UN1789, HYDROCHLORIC ACID, mixture, 8, II |
| Class | 8 |
| Packing group | II |
| Danger label(s) | 8 |



| | |
|--------------------------|-----------|
| Special provisions (SP) | - |
| Excepted quantities (EQ) | E2 |
| Limited quantities (LQ) | 1 L |
| EmS | F-A, S-B |
| Stowage category | C |
| Segregation group | 1 - Acids |

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

• Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)

None of the ingredients are listed.

• Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)

None of the ingredients are listed.

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- **Regulation 850/2004/EC on persistent organic pollutants (POP)**

None of the ingredients are listed.

- **Restrictions according to REACH, Annex XVII**

None of the ingredients are listed.

- **List of substances subject to authorisation (REACH, Annex XIV)**

None of the ingredients are listed.

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

None of the ingredients are listed.

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

None of the ingredients are listed.

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

None of the ingredients are listed.

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|------------|---|
| ADN | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways) |
| ADR | Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road) |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| CLP | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures |
| CMR | Carcinogenic, Mutagenic or toxic for Reproduction |
| EC No | The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union) |
| EmS | Emergency Schedule |
| Eye Dam. | seriously damaging to the eye |
| Eye Irrit. | irritant to the eye |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IMDG | International Maritime Dangerous Goods Code |
| index No | the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 |
| MARPOL | International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant") |
| Met. Corr. | substance or mixture corrosive to metals |
| PBT | Persistent, Bioaccumulative and Toxic |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RID | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) |
| Skin Corr. | corrosive to skin |

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| Abbr. | Descriptions of used abbreviations |
|-------------|--|
| Skin Irrit. | irritant to skin |
| STOT SE | specific target organ toxicity - single exposure |
| vPvB | very Persistent and very Bioaccumulative |

Key literature references and sources for data

- Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU
- Regulation (EC) No. 1272/2008 (CLP, EU GHS)

List of relevant phrases (code and full text as stated in chapter 2 and 3)

| Code | Text |
|------|---|
| H290 | may be corrosive to metals |
| H314 | causes severe skin burns and eye damage |
| H318 | causes serious eye damage |
| H335 | may cause respiratory irritation |

Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.