

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 18.01.2024

Version number 7 (replaces version 6)

Revision: 18.01.2024

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

- **1.1 Product identifier**
- **Molecular formula:** H<sub>2</sub>O
- **Structure formula:** HOH
- **Trade name:** Hydrochloric acid 37%
- **SDS number:** CH5027
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Life cycle stages**  
F Formulation or re-packing  
IS Use at industrial Sites
- **Application of the substance / the mixture** Chemicals products for laboratory
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
CARLO ERBA REAGENTS  
Chaussée du Vexin  
Parc d'Affaires des Portes - BP616  
27106 VAL DE REUIL Cedex  
Téléphone: +33 (0)2 32 09 20 00  
Télécopie: +33 (0)2 32 09 20 20
- **Further information obtainable from:**  
Q.A / Normative  
email: MSDS\_CER-SDS@cer.dgroup.it
- **1.4 Emergency telephone number:**  
Ireland - Tel : 00 353 1 8092568 - 00 353 1 8379964 (24h/24)  
EU Tel : 112

**SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS05 corrosion

- Met. Corr.1 H290 May be corrosive to metals.
- Skin Corr. 1B H314 Causes severe skin burns and eye damage.
- Eye Dam. 1 H318 Causes serious eye damage.



GHS07

- STOT SE 3 H335 May cause respiratory irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS05



GHS07

(Contd. on page 2)

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date 18.01.2024

Version number 7 (replaces version 6)

Revision: 18.01.2024

**Trade name: Hydrochloric acid 37%**

(Contd. of page 1)

- **Signal word** *Danger*
- **Hazard-determining components of labelling:**  
7647-01-0 hydrochloric acid
- **Hazard statements**  
H290 *May be corrosive to metals.*  
H314 *Causes severe skin burns and eye damage.*  
H335 *May cause respiratory irritation.*
- **Precautionary statements**  
P280 *Wear protective gloves / eye protection / face protection.*  
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 [or shower].*  
P304+P340 *IF INHALED: Remove person to fresh air and keep comfortable for breathing.*  
P310 *Immediately call a POISON CENTER/doctor.*  
P305+P351+P338 *IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*  
P403+P233 *Store in a well-ventilated place. Keep container tightly closed.*
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** *Not applicable.*
- **vPvB:** *Not applicable.*

### SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**
- **Description:**  
*Mixture made by the following substances:*

CAS: 7732-18-5 EINECS: 231-791-2 RTECS: ZC 0110000	water, distilled, conductivity or of similar purity	≤100%
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- **Dangerous components:**

EINECS: 231-595-7 Index number: 017-002-01-X RTECS: MW 9620000 Reg.nr.: 01-2119484862-27	7647-01-0 hydrochloric acid ⚠ Met. Corr.1, H290; Skin Corr. 1B, H314; Eye Dam. 1, H318; ⚠ STOT SE 3, H335 Specific concentration limits: Met. Corr.1; H290: C ≥ 0.1 % Skin Corr. 1B; H314: C ≥ 25 % Skin Irrit. 2; H315: 10 % ≤ C < 25 % Eye Dam. 1; H318: C ≥ 25 % STOT SE 3; H335: C ≥ 10 %	35-<40%
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### SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**  
*Remove immediately any clothing soiled by the product and wash with plenty of water. The rescuer has to be equipped with individual protection*
- **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. Wash contaminated clothing before reuse. Seek immediate medical advice.*

(Contd. on page 3)

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date 18.01.2024

Version number 7 (replaces version 6)

Revision: 18.01.2024

**Trade name: Hydrochloric acid 37%**

(Contd. of page 2)

- If skin irritation continues, consult a doctor.*
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
*Do not induce vomiting; call for medical help immediately.*  
*Call for a doctor immediately.*  
*Rinse out mouth and then drink plenty of water.*
- **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.*
- **For safety reasons unsuitable extinguishing agents:** *Water with full jet.*
- **5.2 Special hazards arising from the substance or mixture** *Hydrogen chloride (HCl)*
- **5.3 Advice for firefighters**
- **Protective equipment:** *Do not inhale gases in case of fire or combustion.*
- **Additional information** *Keep receptacles cool with water spray.*

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
*Wear protective equipment. Keep unprotected persons away.*  
*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.*  
*Ensure adequate ventilation*
- **6.2 Environmental precautions:**  
*Do not allow to penetrate the ground/soil.*  
*Dilute with plenty of water after collecting the liquid.*  
*Do not allow to enter sewers/ surface or ground water.*
- **6.3 Methods and material for containment and cleaning up:**  
*Collect the liquid with vacuum in a suitable container and absorb the remainder with a porous material (diatomite, acid binders, universal binders, etc).*  
*Ensure adequate ventilation.*  
*Use neutralising agent.*  
*Dispose contaminated material as waste according to section 13.*
- **6.4 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.*

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
*Ensure good ventilation/exhaustion at the workplace.*  
*Prevent formation of aerosols.*  
*When diluting always pour product into water and not vice versa.*
- **Information about fire - and explosion protection:** *The product is not flammable.*

(Contd. on page 4)

## Safety data sheet according to 1907/2006/EC, Article 31

Printing date 18.01.2024

Version number 7 (replaces version 6)

Revision: 18.01.2024

**Trade name: Hydrochloric acid 37%**

(Contd. of page 3)

- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Provide acid-resistant floor.  
Provide floor trough without outlet.  
Use only receptacles specifically permitted for this substance/product.
- **Information about storage in one common storage facility:**  
Do not store together with alkalis (caustic solutions).
- **Further information about storage conditions:** None.
- **Maximum storage temperature:**  
For plastic packaging, it is recommended not to exceed 25°C for prolonged storage.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
  - **Ingredients with limit values that require monitoring at the workplace:**
- |                                    |   |
|------------------------------------|---|
| <b>7647-01-0 hydrochloric acid</b> |   |
| <b>IOLEV</b>                       | Short-term value: 15 mg/m <sup>3</sup> , 10 ppm<br>Long-term value: 8 mg/m <sup>3</sup> , 5 ppm |
- **Additional information:** The lists valid during the making were used as basis.

- **8.2 Exposure controls**
- **Appropriate engineering controls** No further data; see section 7.
- **Individual protection measures, such as personal protective equipment**
- **General protective and hygienic measures:**  
The usual precautionary measures are to be adhered to when handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Do not inhale gases / fumes / aerosols.  
Do not inhale dust / smoke / mist.  
Avoid contact with the eyes and skin.
- **Respiratory protection:**  
Use suitable respiratory protective device only when aerosol or mist is formed.



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.

Suitable respiratory protective device recommended in case of leakages or handling in open devices.  
Use suitable respiratory protective device in case of insufficient ventilation.  
The selected respiratory protection must comply with standard EN 136/140/143/145/149.

- **Hand protection**  
The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation



Protective gloves

Rubber gloves

(Contd. on page 5)

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date 18.01.2024

Version number 7 (replaces version 6)

Revision: 18.01.2024

**Trade name: Hydrochloric acid 37%**

(Contd. of page 4)

Avoid direct contact with the chemical/ the product/ the preparation by organisational measures.

· **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.

· **For the permanent contact gloves made of the following materials are suitable:**

The penetration time has to be at least 480 minutes

Butyl rubber, BR

Recommended thickness of the material:  $\geq 0.5$  mm

Fluorocarbon rubber (Viton)

Recommended thickness of the material:  $\geq 0.4$  mm

Nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.35$  mm

PVC gloves

Recommended thickness of the material:  $\geq 0.5$  mm

· **Eye/face protection**



Tightly sealed goggles

· **Body protection:**

Protective work clothing

Acid resistant protective clothing

Apron

· **Environmental exposure controls**

In case of unintended release of the product: See section 6 of the Safety Data Sheet.

· **Risk management measures** Keep good industrial hygiene.

### SECTION 9: Physical and chemical properties

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

· <b>Molecular weight</b>	18.02 g
· <b>Physical state</b>	Fluid
· <b>Colour:</b>	Colourless
· <b>Odour:</b>	Pungent
· <b>Odour threshold:</b>	Not determined.
· <b>Melting point/freezing point:</b>	Undetermined.
· <b>Boiling point or initial boiling point and boiling range</b>	85-108 °C (CAS: 7732-18-5 water, distilled, conductivity or of similar purity)
· <b>Flammability</b>	Not applicable.
· <b>Lower and upper explosion limit</b>	
· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.
· <b>Flash point:</b>	Not applicable.
· <b>pH at 20 °C</b>	<1
· <b>Viscosity:</b>	
· <b>Kinematic viscosity</b>	Not determined.
· <b>Dynamic at 20 °C:</b>	0.952 mPas
· <b>Solubility</b>	
· <b>water:</b>	Fully miscible.

(Contd. on page 6)

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 18.01.2024

Version number 7 (replaces version 6)

Revision: 18.01.2024

Trade name: Hydrochloric acid 37%

(Contd. of page 5)

· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure:	Not determined.
· Vapour pressure (2) at 50 °C:	123 hPa
· Density and/or relative density	
· Density at 20 °C:	1.186 g/cm <sup>3</sup>
· Relative density	Not determined.
· Vapour density	Not determined.

**9.2 Other information**

· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product does not present an explosion hazard.
· Solvent separation test:	
· Water:	63.0 %
· Solids content:	0.0 %
· Change in condition	
· Evaporation rate	Not determined.

**Information with regard to physical hazard classes**

· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Void
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	May be corrosive to metals.
· Desensitised explosives	Void

### SECTION 10: Stability and reactivity

- 10.1 Reactivity See 10.3
- 10.2 Chemical stability
- Thermal decomposition / conditions to be avoided:  
No decomposition if used and stored according to specifications.
- 10.3 Possibility of hazardous reactions  
Reacts with various metals.  
Corrosive action on metals.  
Reacts dangerously with alkali (lyes) or amines in bulk.
- 10.4 Conditions to avoid No further relevant information available.
- 10.5 Incompatible materials: Metals

(Contd. on page 7)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 18.01.2024

Version number 7 (replaces version 6)

Revision: 18.01.2024

**Trade name: Hydrochloric acid 37%**

(Contd. of page 6)

· **10.6 Hazardous decomposition products:** Hydrogen chloride (HCl)

**SECTION 11: Toxicological information**

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **Skin corrosion/irritation** Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**  
Strong caustic effect.  
Strong irritant with the danger of severe eye injury.  
Causes serious eye damage.
- **Inhalation:**  
Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.  
Harmful if inhaled. May cause respiratory tract irritation.  
May cause respiratory irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** May cause respiratory irritation.
- **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.
- **11.2 Information on other hazards**

· **Endocrine disrupting properties**

None of the ingredients is listed.

**SECTION 12: Ecological information**

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **Method**
- **Ecological information** Not available
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties**  
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Remark:** Local effects: may change the environmental pH endangering the aquatic life.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (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 sewage water or drainage ditch undiluted or unneutralised.  
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.

EU

(Contd. on page 8)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 18.01.2024

Version number 7 (replaces version 6)

Revision: 18.01.2024

**Trade name: Hydrochloric acid 37%**

(Contd. of page 7)

### SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system. Reutilise if possible or contact a waste processors for recycling or safe disposal.

· **Waste disposal key:**

The European Union does not establish uniform rules for the disposal of chemical waste, which are special waste. Their treatment and elimination of the domestic legislation of each country. So, in each case, you should contact the relevant authorities, or those companies legally authorized for elimination of waste.

2014/955/UE: Council Decision of 18 December 2014 amending the list of wastes contained in Decision 2000/532/EC.

Directive 2008/98/EC of the european parliament and of the council of 18 November 2008, in ist latest valid version.

· **European waste catalogue**

HP5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
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HP8	Corrosive
-----	-----------

· **Uncleaned packaging:**

The containers and packaging materials contaminated with dangerous substances or preparations, have the same treatment of products.

Directive 94/62/EC of the European Parliament and the Council of 20 December 1994 on packaging and packaging waste.

· **Recommendation:**

Disposal must be made according to official regulations.

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

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

### SECTION 14: Transport information

· **14.1 UN number or ID number**

· **ADR/RID, IMDG, IATA** UN1789

· **14.2 UN proper shipping name**

· **ADR/RID** 1789 HYDROCHLORIC ACID

· **IMDG** HYDROCHLORIC ACID

· **IATA** Hydrochloric acid

· **14.3 Transport hazard class(es)**

· **ADR/RID**



· **Class** 8 (C1) Corrosive substances.

· **Label** 8

(Contd. on page 9)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 18.01.2024

Version number 7 (replaces version 6)

Revision: 18.01.2024

**Trade name: Hydrochloric acid 37%**

(Contd. of page 8)

**· IMDG, IATA**


· **Class** 8 Corrosive substances.  
· **Label** 8

· **14.4 Packing group**  
· **ADR/RID, IMDG, IATA** II

· **14.5 Environmental hazards:** Not applicable.

· **14.6 Special precautions for user** Warning: Corrosive substances.  
· **Hazard identification number (Kemler code):** 80  
· **EMS Number:** F-A,S-B  
· **Segregation groups** (SGG1a) Strong acids  
· **Stowage Category** C  
· **Segregation Code** SG36 Stow "separated from" SGG18-alkalis.  
SG49 Stow "separated from" SGG6-cyanides

· **14.7 Maritime transport in bulk according to IMO instruments** Not applicable.

**· Transport/Additional information:**

· **ADR/RID**  
· **Limited quantities (LQ)** 1L  
· **Excepted quantities (EQ)** Code: E2  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml  
· **Transport category** 2  
· **Tunnel restriction code** E

· **IMDG**  
· **Limited quantities (LQ)** 1L  
· **Excepted quantities (EQ)** Code: E2  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":** UN 1789 HYDROCHLORIC ACID, 8, II

### SECTION 15: Regulatory information

**· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
**· SARA Section 355 (extremely hazardous substances)**

7647-01-0 hydrochloric acid

**· SARA Section 313 (specific toxic chemical listings)**

7647-01-0 hydrochloric acid

**· Prop 65 - Chemicals known to cause cancer**

None of the ingredients is listed.

**· Directive 2012/18/EU**
**· Named dangerous substances - ANNEX I** None of the ingredients is listed.

(Contd. on page 10)

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date 18.01.2024

Version number 7 (replaces version 6)

Revision: 18.01.2024

**Trade name: Hydrochloric acid 37%**

(Contd. of page 9)

**· REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)**

None of the ingredients is listed.

**· LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

None of the ingredients is listed.

**· REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3**
**· DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

**· National regulations:**
**· Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

**· Other regulations, limitations and prohibitive regulations**

0.0 g/l

0.00 %

**· Substances of very high concern (SVHC) according to REACH, Article 57**

None of the ingredients is listed.

**· 15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

### SECTION 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.

**· Relevant phrases**

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

**· Department issuing SDS:** Q.A./Normative

**· Date of previous version:** 15.11.2023

**· Version number of previous version:** 6

**· 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

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)

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

ATE: Acute toxicity estimate values

Met. Corr. 1: Corrosive to metals – Category 1

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

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

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

**· Sources**

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006, REACH, in the latest valid version.

Regulation (EC) N° 1272/2008 of the European Parliament and of the Council of 16 December 2008, CLP, in the latest valid version.

Globally Harmonized System, GHS

ADR/RID, IMDG, IATA

(Contd. on page 11)

***Safety data sheet***  
***according to 1907/2006/EC, Article 31***

*Printing date 18.01.2024*

*Version number 7 (replaces version 6)*

*Revision: 18.01.2024*

***Trade name: Hydrochloric acid 37%***

(Contd. of page 10)

*PubChem : an open chemistry database at the National Institutes of Health (NIH)*

*ECHA : European CHEMicals Agency*

*GESTIS : Information system on hazardous substances of the German Social Accident Insurance*

*· \* Data compared to the previous version altered. .*

EU

(Contd. on page 12)

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date 18.01.2024

Version number 7 (replaces version 6)

Revision: 18.01.2024

**Trade name: Hydrochloric acid 37%**

(Contd. of page 11)

### Annex: Exposure scenario 1

- **Short title of the exposure scenario** Chemicals products for laboratory
- **Sector of Use** Industrial use.
- **Process category** PROC15 Use as laboratory reagent
- **Description of the activities / processes covered in the Exposure Scenario**  
See section 1 of the annex to the Safety Data Sheet.
- **Conditions of use** Customary application according to section 1.
- **Duration and frequency** 5 workdays/week.
- **Worker** 4 hrs (half working shift).
- **Physical parameters**  
The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.
- **Physical state** Fluid
- **Concentration of the substance in the mixture** The substance is main component.
- **Other operational conditions** Observe the general safety regulations when handling chemicals.
- **Other operational conditions affecting environmental exposure**  
Observe section 6 of the Safety Data Sheet (Accidental release measures).
- **Other operational conditions affecting worker exposure**  
Avoid contact with eyes.  
Avoid contact with the skin.  
Ensure adequate ventilation, especially in closed rooms.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**  
Keep good industrial hygiene.  
Ensure that activities are executed by specialists or authorised personnel only.  
Provide sufficient washing facilities.  
Persons, who tend to skin diseases or other hypersensitivity reactions of the skin, should not handle the product.
- **Technical protective measures** Ensure good ventilation/exhaustion at the workplace.
- **Personal protective measures**  
Avoid contact with the skin.  
Avoid contact with the eyes.  
The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation  
Protective gloves  
Rubber gloves  
Avoid direct contact with the chemical/ the product/ the preparation by organisational measures.  
Tightly sealed goggles  
The usual precautionary measures are to be adhered to when handling chemicals.  
Detailed measures on hand protection according to Safety Data Sheet, section 8.  
Use suitable respiratory protective device only when aerosol or mist is formed.  
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.  
Suitable respiratory protective device recommended in case of leakages or handling in open devices.  
Use suitable respiratory protective device in case of insufficient ventilation.  
The selected respiratory protection must comply with standard EN 136/140/143/145/149.  
Protective work clothing  
Acid resistant protective clothing  
Apron

(Contd. on page 13)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 18.01.2024

Version number 7 (replaces version 6)

Revision: 18.01.2024

**Trade name: Hydrochloric acid 37%**

(Contd. of page 12)

· **Environmental protection measures**

· **Water**

Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.

· **Notes** In case of unintended release of the product: See section 6 of the Safety Data Sheet.

· **Disposal measures** Ensure that waste is collected and contained.

· **Disposal procedures**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Waste type** Partially emptied and uncleaned packaging

· **Exposure estimation**

· **Worker (inhalation)**

The highest inhalative exposure to be expected is 2.12 ppm.

The exposure estimation was carried out in accordance with ECETOC TRA.

RCR 0.4

· **Guidance for downstream users**

Whether the downstream user acts within the scope of the Exposure Scenario can be verified based on the information in sections 1 to 8.

Whether the downstream user uses the substance / the mixture within the scope of the Exposure Scenario can be determined by means of a technical assessment.

EU

(Contd. on page 14)

## Safety data sheet

### according to 1907/2006/EC, Article 31

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**Trade name: Hydrochloric acid 37%**

(Contd. of page 13)

### Annex: Exposure scenario 2

- **Short title of the exposure scenario** Substance manufacturing
- **Sector of Use** Industrial use.
- **Process category**
  - PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
  - PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
  - PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
  - PROC4 Chemical production where opportunity for exposure arises
  - PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
  - PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
  - PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
  - PROC15 Use as laboratory reagent
- **Description of the activities / processes covered in the Exposure Scenario**  
See section 1 of the annex to the Safety Data Sheet.
- **Conditions of use** Customary application according to section 1.
- **Duration and frequency** 5 workdays/week.
- **Worker** 8hrs (full working shift).
- **Physical parameters**  
The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.
- **Physical state** Fluid
- **Concentration of the substance in the mixture** The substance is main component.
- **Other operational conditions** Observe the general safety regulations when handling chemicals.
- **Other operational conditions affecting environmental exposure**  
Observe section 6 of the Safety Data Sheet (Accidental release measures).
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**  
Keep good industrial hygiene.  
Ensure that activities are executed by specialists or authorised personnel only.  
The appropriate type of chemical protective glove has to be selected specifically, depending on the concentration and quantity of hazardous substances in the workplace.  
Persons, who tend to skin diseases or other hypersensitivity reactions of the skin, should not handle the product.  
Provide sufficient washing facilities.
- **Technical protective measures** Ensure good ventilation/exhaustion at the workplace.
- **Personal protective measures**  
The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation  
Protective gloves  
Rubber gloves  
Avoid direct contact with the chemical/ the product/ the preparation by organisational measures.  
Tightly sealed goggles  
The usual precautionary measures are to be adhered to when handling chemicals.  
Detailed measures on hand protection according to Safety Data Sheet, section 8.  
Use suitable respiratory protective device only when aerosol or mist is formed.  
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.  
Use suitable respiratory protective device in case of insufficient ventilation.

(Contd. on page 15)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

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Version number 7 (replaces version 6)

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**Trade name: Hydrochloric acid 37%**

(Contd. of page 14)

*The selected respiratory protection must comply with standard EN 136/140/143/145/149.*

*Protective work clothing*

*Apron*

· **Environmental protection measures**

· **Notes** *In case of unintended release of the product: See section 6 of the Safety Data Sheet.*

· **Disposal measures** *Ensure that waste is collected and contained.*

· **Disposal procedures**

*Must not be disposed together with household garbage. Do not allow product to reach sewage system.*

· **Waste type** *Partially emptied and uncleaned packaging*

· **Exposure estimation**

· **Worker (inhalation)**

*The highest inhalative exposure to be expected is 5.29 ppm.*

*The exposure estimation was carried out in accordance with ECETOC TRA.*

*RCR 0.9*

· **Guidance for downstream users**

*Whether the downstream user acts within the scope of the Exposure Scenario can be verified based on the information in sections 1 to 8.*

*Whether the downstream user uses the substance / the mixture within the scope of the Exposure Scenario can be determined by means of a technical assessment.*

EU

(Contd. on page 16)

**Safety data sheet**  
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**Trade name: Hydrochloric acid 37%**

(Contd. of page 15)

**Annex: Exposure scenario 3**

- **Short title of the exposure scenario** Formulation or re-packing
- **Sector of Use** Industrial use.
- **Process category**
  - PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
  - PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
  - PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
  - PROC4 Chemical production where opportunity for exposure arises
  - PROC5 Mixing or blending in batch processes
  - PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
  - PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
  - PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
- **Description of the activities / processes covered in the Exposure Scenario**  
See section 1 of the annex to the Safety Data Sheet.
- **Conditions of use** Customary application according to section 1.
- **Duration and frequency** 5 workdays/week.
- **Worker** 8hrs (full working shift).
- **Physical parameters**  
The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.
- **Physical state** Fluid
- **Concentration of the substance in the mixture** The substance is main component.
- **Other operational conditions** Observe the general safety regulations when handling chemicals.
- **Other operational conditions affecting environmental exposure**  
Observe section 6 of the Safety Data Sheet (Accidental release measures).
- **Other operational conditions affecting worker exposure**  
Avoid contact with eyes.  
Avoid contact with the skin.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**  
Keep good industrial hygiene.  
Ensure that activities are executed by specialists or authorised personnel only.  
Persons, who tend to skin diseases or other hypersensitivity reactions of the skin, should not handle the product.  
Provide sufficient washing facilities.
- **Technical protective measures** Ensure good ventilation/exhaustion at the workplace.
- **Personal protective measures**  
Avoid contact with the skin.  
Avoid contact with the eyes.  
The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation  
Protective gloves  
Rubber gloves  
Avoid direct contact with the chemical/ the product/ the preparation by organisational measures.  
Tightly sealed goggles  
The usual precautionary measures are to be adhered to when handling chemicals.

(Contd. on page 17)

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**Trade name: Hydrochloric acid 37%**

(Contd. of page 16)

*Detailed measures on hand protection according to Safety Data Sheet, section 8.*

*Use suitable respiratory protective device only when aerosol or mist is formed.*

*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.*

*Suitable respiratory protective device recommended in case of leakages or handling in open devices.*

*Use suitable respiratory protective device in case of insufficient ventilation.*

*The selected respiratory protection must comply with standard EN 136/140/143/145/149.*

*Protective work clothing*

*Apron*

· **Environmental protection measures**

· **Water**

*Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.*

· **Notes** *In case of unintended release of the product: See section 6 of the Safety Data Sheet.*

· **Disposal measures** *Ensure that waste is collected and contained.*

· **Disposal procedures**

*Must not be disposed together with household garbage. Do not allow product to reach sewage system.*

· **Waste type** *Partially emptied and uncleaned packaging*

· **Exposure estimation**

· **Worker (inhalation)**

*The highest inhalative exposure to be expected is 5.29 ppm.*

*The exposure estimation was carried out in accordance with ECETOC TRA.*

*RCR 0.9*

· **Guidance for downstream users**

*Whether the downstream user acts within the scope of the Exposure Scenario can be verified based on the information in sections 1 to 8.*

*Whether the downstream user uses the substance / the mixture within the scope of the Exposure Scenario can be determined by means of a technical assessment.*