

Safety Data Sheet

CHLORIDRIC ACID IN SOLUTION

Safety Data Sheet dated 15/11/2022 version 2



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

1.1. Product identifier

Identification of the substance:

Trade name: CHLORIDRIC ACID IN SOLUTION

Chemical name: hydrochloric acid 32-37 %

CAS number: 7647-01-0

EC number: 231-595-7

Index number: 017-002-01-X

Registration Number 01-2119484862-27-0085

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

Recommended use: FOR INDUSTRIAL USE

See attached exposure scenario.

Uses advised against: N.A.

1.3. Details of the supplier of the safety data sheet

Company:

HydroChem Italia S.R.L.

Via Mario Massari, 30/32, 28886 Pieve Vergonte VB/ITALY

Phone +39 0324 8601

Fax +39 0324 86694

Homepage www.hydrochemitalia.it

Competent person responsible for the safety data sheet: sds@hydrochemitalia.it

1.4. Emergency telephone number

Company: +39 0324 8601 Mo-Fr 8:00-17:00

Malta: 112

SECTION 2: Hazards identification



2.1. Classification of the substance or mixture

Regulation (EC) n. 1272/2008 (CLP)

Met. Corr. 1	May be corrosive to metals.
Skin Corr. 1B	Causes severe skin burns and eye damage.
Eye Dam. 1	Causes serious eye damage.
STOT SE 3	May cause respiratory irritation.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Regulation (EC) No 1272/2008 (CLP):

Pictograms and Signal Words



Danger

Hazard statements

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

Precautionary statements

P234	Keep only in original packaging.
P280	Wear protective gloves/clothing and eye/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.

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

P501 Dispose of contents/container in accordance with applicable regulations.

Contains

hydrochloric acid 25-37%

Special provisions according to Annex XVII of REACH and subsequent amendments:

None.

2.3. Other hazards

This substance has no PBT, vPvB or endocrine disrupting properties

Other Hazards: No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance Identifications:	hydrochloric acid 25-37%
EC number:	231-595-7
Index number:	017-002-01-X
Registration Number	01-2119484862-27-0114

Specific Concentration Limits

25% ≤ C < 100%	Skin Corr. 1B H314
10% ≤ C < 25%	Skin Irrit. 2 H315
10% ≤ C < 25%	Eye Irrit. 2 H319
10% ≤ C < 100%	STOT SE 3 H335

3.2. Mixtures

N.A.

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

After contact with skin, wash immediately with soap and plenty of water.

OBTAIN IMMEDIATE MEDICAL ATTENTION.

In case of persistent skin irritation consult a doctor.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

OBTAIN IMMEDIATE MEDICAL ATTENTION.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and hazard labelling.

OBTAIN IMMEDIATE MEDICAL ATTENTION.

In case of Inhalation:

In case of inhalation, consult a doctor immediately and show him packing or label.

4.2. Most important symptoms and effects, both acute and delayed

Pulmonary oedema

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment: Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Carbon dioxide (CO₂).

Water.

According to the materials involved in the fire.

Extinguishing media which must not be used for safety reasons:

full jet of water.

5.2. Special hazards arising from the substance or mixture

Product itself is non-combustible.

Hazardous combustion products:

In the case of inclusion in an ambient fire hazardous substances can be released.

Hydrochloric acid (HCl)

5.3. Advice for firefighters

Wear suitable protective clothing (helmet, protective clothings, goggles, fire resistant gloves, boots) and protect respiratory organs (self contained breathing apparatus).

Use suitable breathing apparatus .

Cool the containers exposed to the fire with water.

Move undamaged containers from immediate hazard area if it can be done safely.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation.

Wear personal protection equipment.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Use appropriate respiratory protection.

See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

Prevent dispersion over a wide area (e.g. with containment or oil barriers)

Suitable material for taking up: absorbing material, organic, sand

Dispose of the collected material in accordance with the current regulations.

Wash with plenty of water.

Retain contaminated washing water and dispose it.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Use localized ventilation system.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Advice on general occupational hygiene:

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from food, drink and feed.

Do not pour the product into other containers. Always use the original container.

Incompatible materials:

Keep away from oxidizing agents

Keep away from acids.

Keep away from alkalis.

See subsection 10

Instructions as regards storage premises:

Provide acid-resistant floor

Adequately ventilated premises.

Packaging materials:

Always keep the containers tightly closed.

7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

OEL Type	Cou ntry g	Ceilin g	Long Term mg/m3	Long Term ppm	Short Term mg/m3	Short Term ppm	Notes
EU			8.000	5.000	15.000	10.000	
National	ITAL Y		8.000	5.000	15	10	
National	GER MAN Y		3.000	2.000	6.000	4.000	
ACGIH	C				2.000		A4 - irrt (rspr at)

Predicted No Effect Concentration (PNEC) values

PNEC Limit	Exposure Route	Exposure Frequency	Remark
0.004 mg/l	Fresh Water		
0.004 mg/l	Marine water		
0.004 mg/l	Microorganisms in sewage treatments		

Derived No Effect Level (DNEL) values

Worker Industry	Worker Professional	Consumer	Exposure Route	Exposure Frequency	Remark
15 mg/m3		15 mg/m3	Human Inhalation		Short Term, local effects
8 mg/m3		8 mg/m3	Human Inhalation		Long Term, local effects

8.2. Exposure controls

Individual protection measures:

Personal protective equipment selections vary based on potential exposure conditions and working conditions.

The final choice of protective equipment will depend upon a risk assessment.

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Please see both sections 5 and 6 for information about personal protective equipment to be worn in an emergency (e.g.: fire or unintentional release of the substance).

Eye protection:

Chemical risk goggles (with side protection).

Technical reference standard: UNI EN 166

Protection for skin:

Wear chemical resistant clothing.

Technical reference standard: UNI EN 13034

Wear chemical resistant safety shoes.

Technical reference standard: UNI EN 20345

Protection for hands:

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.

Glove suitability and breakthrough time will differ depending on the specific use conditions.

Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions.

Wear suitable gloves tested to EN374.

Suitable material:

Butyl caoutchouc (butyl rubber). (Recommended thickness of the material: 0.7 mm; Permeation time: > 480 min).

NBR (nitrile rubber) (Recommended thickness of the material: 0.7 mm; Permeation time: > 480 min)

Neoprene (Recommended thickness of the material: > 0.7 mm; Permeation time: > 480 min)

Respiratory protection:

Depending on the potential for exposure, select respiratory protective equipment suitable for the specific conditions of use and in

compliance with current legislation.

Short term: filter apparatus, filter E-P2 (DIN EN 14387)

Thermal Hazards:

N.A.

Environmental exposure controls:

Comply with the applicable environmental regulations limiting discharge to air, water and soil.

Hygienic and Technical measures

N.A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid

Color: Light yellow

Odour: Pungent

Odour threshold: (Data not available.)

pH: <1

Kinematic viscosity: N.A. 0.002 Pas (20°C)

Melting point / freezing point: -28°C (HCl 36%);-35°C (HCl 34%);-41°C (HCl 32%);-50°C (HCl 30%)

Initial boiling point and boiling range: 50°C (HCl 36%);67°C (HCl 34%);78°C (HCl 32%);90°C (HCl 30%)

Flash point: Not Relevant (Study scientifically not necessary)

Upper/lower flammability or explosive limits: Not Relevant (Study scientifically not necessary)

Vapour density: N.A. (Data not available.)

Vapour pressure: 14,5 hPa (HCl 30%);26 hPa (HCl 32%);61 hPa (HCl 34%);120 hPa (HCl 36%)

Relative density: 1.15 g/ml(HCl 30%);1.16 g/ml(HCl 32%);1.17 g/ml(HCl 34%);1.19 g/ml (HCl 36%)

Solubility in water: 42.02 g/100 g solution

Solubility in oil: N.A.

Partition coefficient (n-octanol/water): Not Relevant (Does not apply to inorganic products.)

Auto-ignition temperature: N.A. (Study scientifically not necessary)

Decomposition temperature: N.A.

Flammability: Non-flammable

Volatile Organic compounds - VOCs = N.A.

Particle characteristics:

Particle size: Not Relevant (Does not apply to liquid.)

9.2. Other information

Miscibility: N.A.

Conductivity: N.A.

Explosive properties: (Non explosive - There are no chemical groups present in the molecule which are associated with these properties)

Oxidizing properties: (Non oxidising - There are no chemical groups present in the molecule which are associated with these properties)

Evaporation rate: N.A.

No other relevant information

SECTION 10: Stability and reactivity

10.1. Reactivity

Danger due to exothermic reactions. May be corrosive to metals.

Stable under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Forms hydrogen by reaction with metals. Exothermic reaction with bases.

Reactions with oxidants.

Reactions with alkalis.

10.4. Conditions to avoid

Reaction with strong oxidising agents. Reacts with alkaline substances (bases).

Stable under normal conditions.

High temperature.

10.5. Incompatible materials

The product reacts with metals with development of highly flammable hydrogen gas. The acid reacts violently with alkalis developing heat.

10.6. Hazardous decomposition products

Hydrochloric acid / chlorine / hydrogen.

Heating leads to production of corrosive and toxic hydrochloric acid gas / aerosol. Highly flammable hydrogen gas may arise from contact with steel or aluminium and other metals. Contact with fire may lead to the possible development of toxic chlorine gas. Contact with strong oxidisers (bleach, H₂O₂, HNO₃, etc.), leads to the production of toxic chlorine gas.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicological Information of the Substance

a) acute toxicity	Not classified Based on available data, the classification criteria are not met LC50 Inhalation Rat = 4701 ppm 30min - HCl gas (exposure of 30 minutes)
b) skin corrosion/irritation	The product is classified: Skin Corr. 1B(H314) Skin Corrosive Skin Positive
c) serious eye damage/irritation	The product is classified: Eye Dam. 1(H318) Eye Corrosive Positive
d) respiratory or skin sensitisation	Not classified Based on available data, the classification criteria are not met Skin Sensitization Negative - OECD 406
e) germ cell mutagenicity	Not classified Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified Based on available data, the classification criteria are not met
g) reproductive toxicity	Not classified Based on available data, the classification criteria are not met
h) STOT-single exposure	The product is classified: STOT SE 3(H335)
i) STOT-repeated exposure	Not classified Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified Based on available data, the classification criteria are not met

11.2. Information on other hazards

Endocrine disrupting properties:

This substance has no endocrine disrupting properties

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

List of Eco-Toxicological properties of the product

Not classified for environmental hazards.

Based on available data, the classification criteria are not met

a) Aquatic acute toxicity : LC50 Fish *Lepomis macrochirus* = 20.5 mg/l 96h

a) Aquatic acute toxicity : LC50 Algae *Chlorella vulgaris* = 0.73 mg/l | OECD 201

12.2. Persistence and degradability

N.A.

12.3. Bioaccumulative potential

Bioaccumulation is not to be expected

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

This substance has no PBT, vPvB or endocrine disrupting properties

12.6. Endocrine disrupting properties

This substance has no endocrine disrupting properties

12.7. Other adverse effects

N.A.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information

14.1. UN number or ID number

1789

14.2. UN proper shipping name

ADR-Shipping Name: HYDROCHLORIC ACID
IATA-Technical name: HYDROCHLORIC ACID
IMDG-Technical name: HYDROCHLORIC ACID

14.3. Transport hazard class(es)

ADR-Class: 8
IATA-Class: 8
IMDG-Class: 8

14.4. Packing group

ADR-Packing Group: II
IATA-Packing group: II
IMDG-Packing group: II

14.5. Environmental hazards

Marine pollutant: No
Environmental Pollutant: No
IMDG-EMS: F-A, S-B

14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: 8
ADR - Hazard identification number: 80
ADR-Special Provisions: 520
ADR-Transport category (Tunnel restriction code): 2 (E)

Air (IATA):

IATA-Passenger Aircraft: 851
IATA-Cargo Aircraft: 855
IATA-Label: 8
IATA-Subsidiary hazards: -
IATA-Erg: 8L
IATA-Special Provisions: A3 A803

Sea (IMDG):

IMDG-Stowage Code: Category C
IMDG-Stowage Note: SGG1a SG36 SG49
IMDG-Subsidiary hazards: -
IMDG-Special Provisions: -

14.7. Maritime transport in bulk according to IMO instruments

N.A.

SECTION 15: Regulatory information

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

Regulation (EU) n. 2020/878

Regulation (EC) n. 1907/2006 (REACH) and subsequent amendments

Regulation (EC) n. 1272/2008 (CLP) and subsequent amendments

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product: 3

Restrictions related to the substances contained: 75

Provisions related to directive EU 2012/18 (Seveso III):

N.A.

Regulation (EU) No 649/2012 (PIC regulation)

No substances listed

Where applicable, refer to the following regulatory provisions :

German Water Hazard Class.

Class 1: slightly hazardous for water.

SVHC Substances:

No data available

15.2. Chemical safety assessment

A Chemical Safety Assessment has been carried out for the substance.

SECTION 16: Other information

Code	Description
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.

Code	Hazard class and hazard category	Description
2.16/1	Met. Corr. 1	Substance or mixture corrosive to metals, Category 1
3.2/1B	Skin Corr. 1B	Skin corrosion, Category 1B
3.3/1	Eye Dam. 1	Serious eye damage, Category 1
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

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

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

DNEL: Derived No Effect Level.

DPD: Dangerous Preparations Directive

DSD: Dangerous Substances Directive

EC50: Half Maximal Effective Concentration

ECHA: European Chemicals Agency

EINECS: European Inventory of Existing Commercial Chemical Substances.
ES: Exposure Scenario
GefStoffVO: Ordinance on Hazardous Substances, Germany.
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
IC50: half maximal inhibitory concentration
ICAO: International Civil Aviation Organization.
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG: International Maritime Code for Dangerous Goods.
INCI: International Nomenclature of Cosmetic Ingredients.
IRCCS: Scientific Institute for Research, Hospitalization and Health Care
KAFH: KAFH
KSt: Explosion coefficient.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
LDLo: Leathal Dose Low
N.A.: Not Applicable
N/D: Not defined/ Not available
NIOSH: National Institute for Occupational Safety and Health
NOAEL: No Observed Adverse Effect Level
OSHA: Occupational Safety and Health Administration.
PBT: Persistent, Bioaccumulative and Toxic
PGK: Packaging Instruction
PNEC: Predicted No Effect Concentration.
PSG: Passengers
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
vPvB: Very Persistent, Very Bioaccumulative.
WGK: German Water Hazard Class.

Paragraphs modified from the previous revision:

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