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

revised on: 31.07.2023 Version number 12 (replaces version 11) Creation Date: 14.04.2016

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

- · 1.1 Product identifier
- · Trade name: Hydrochloric acid conc. Volumetric solution 0,5 mol/l (0,5 N)
- · Article number: 835
- · CAS Number: -
- · Registration number This product is a mixture. For relevant UK REACH registration numbers see section 3.
- · UFI: A020-T0N7-C001-1X68
- · 1.2 Relevant identified uses of the substance or mixture and uses advised against
- · Life cycle stages
 - F Formulation or re-packing
- IS Use at industrial Sites
- · Sector of Use
- SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- SU9 Manufacture of fine chemicals
- SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
- SU24 Scientific research and development
- Product category
- PC19 Intermediate
- PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
- PC21 Laboratory chemicals
- PC29 Pharmaceuticals
- PC40 Extraction agents
- · 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
- PROC15 Use as laboratory reagent
- · Environmental release category
- ERC1 Manufacture of the substance
- ERC2 Formulation into mixture
- ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
- ERC6a Use of intermediate

· Application of the substance / the mixture

Industrial use

Laboratory chemicals

Chemical analytics

- · 1.3 Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Th. Geyer GmbH & Co. KG

Dornierstr. 4 - 6

D-71272 Renningen

Tel.: +49(0)7159-1637-0, Fax:+49 (0)7159/18417

www.thgeyer.de

sicherheitsdatenblaetter@thgeyer.de

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· Further information obtainable from: Product management department

· 1.4 Emergency telephone number:

National Poisons Information Service

City Hospital Dudley Road

Birmingham B18 7QH

Tel.:Emergency: (00 44) 87 06 00 62 66

Members of the public seeking specific information on poisons should contact:

In England and Wales: NHS 111 - dial 111

In Scotland: NHS 24 - dial 111

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.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation. 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 GB CLP regulation.

Hazard pictograms





GHS05 GHS07

- · Signal word Warning
- · Hazard-determining components of labelling:

Hydrochloric acid

· Hazard statements

H290 May be corrosive to metals.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

· Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

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

P302+P352 IF ON SKIN: Wash with plenty of water.

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.

P390 Absorb spillage to prevent material damage.

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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 Mixtures
- · Description: Mixture: consisting of the following components.

 Dangerous comp 	onents:
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Reg.nr.: 01-2119484862-27-XXXX STOT SE 3, H335

· Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· General information:

First aider needs to protect himself.

Immediately remove any clothing soiled by the product.

· After inhalation:

Supply fresh air.

Consult a doctor if symptoms persist or are severe.

· After skin contact:

Wash with plenty of soap and water, take off dirty clothes and shoes.

After prolonged contact (accidental/forced) or any signs of skin changes (redness or other signs of inflammation), consult a doctor.

· After eye contact:

Protect unharmed eye.

Remove contact lenses

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

Continue to rinse during transport with isotonic saline, alternatively with water.

· After swallowing:

Rinse mouth thoroughly with water.

Have them drink water (maximum 2 drinking glasses).

Seek medical treatment.

- · Information for doctor: Please observe safety data sheet/label.
- · 4.2 Most important symptoms and effects, both acute and delayed

Gastric or intestinal disorders

Cramp

Nausea

· Hazards

Danger of pulmonary oedema.

Danger of pneumonia.

Danger of gastric perforation.

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

In case of lung irritation, administer glucocorticoid dose aerosol.

If necessary oxygen respiration treatment.

Monitor circulation.

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Symptomatic treatment.

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SECTION 5: Firefighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents:

Use fire extinguishing methods suitable to surrounding conditions.

Use carbon dioxide, extinguishing powder, water spray or alcohol-resistant foam.

- · For safety reasons unsuitable extinguishing agents: Water with full jet.
- 5.2 Special hazards arising from the substance or mixture

Under certain fire conditions, traces of other toxic gases cannot be excluded.

In case of fire, the following can be released:

Hydrogen chloride (HCI)

- · 5.3 Advice for firefighters
- · Protective equipment:

Wear fully protective suit.

Do not inhale explosion gases or combustion gases.

Mouth respiratory protective device.

· Additional information

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Don't breathe dust.

Avoid contact with eyes and skin.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Keep away from ignition sources.

Wear protective equipment. Keep unprotected persons away.

· 6.2 Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

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

· 6.3 Methods and material for containment and cleaning up:

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

Use neutralising agent.

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

· 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

Store in cool, dry place in tightly closed receptacles.

Keep away from heat and direct sunlight.

Apply the general protective and hygienic measures when handling chemicals.

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

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

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- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles:

Prevent any seepage into the ground.

Store only in the original receptacle.

· Information about storage in one common storage facility:

Store away from oxidising agents.

Store away from flammable substances.

Store away from reducing agents.

Store away from metals.

- · Further information about storage conditions: Keep container tightly sealed.
- · Storage class: 8 B
- · 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:

CAS: 7647-01-0 Hydrochloric acid

WEL Short-term value: 8 mg/m³, 5 ppm

Long-term value: 2 mg/m3, 1 ppm

(gas and aerosol mists)

- · 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:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes 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. If air-purifying respiratory protection is required according to the risk assessment, wear a respirator with full-face mask with combination filter (US) or with filter type ABEK (EN 14387) filter cartridge. If the respirator is the only protective measure, an ambient air self-contained breathing apparatus with afull face mask must be worn. Respirators and components must be approved to appropriate government standards (for example, NIOSH (US) or CEN (EU)). Translated with www.DeepL.com/Translator (free version)

· Hand protection



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

Nitrile rubber, NBR

Material thickness > 0.11 mm

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.

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· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Level 6 for applications > 480 min

Eye/face protection



Tightly sealed goggles

Body protection:



Protective work clothing (e. g. safety shoes EN ISO 20345, long-sleeved protective working garments).

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Physical state Fluid

· Colour: According to product specification

Odour: PungentMelting point/freezing point: <0 °C

· Boiling point or initial boiling point and boiling

range 100 °C

· Flammability Not applicable.

· Lower and upper explosion limit

Lower: Not determined.
Upper: Not determined.
Flash point: Not applicable.
Decomposition temperature: Not determined.

· pH at 20 °C <1

· Viscosity:

· Viscosity.

Kinematic viscosity
 Dynamic:
 Not determined.

· Solubility

water: Fully miscible.
Partition coefficient n-octanol/water (log value)
Not determined.

· Vapour pressure at 20 °C:

Density and/or relative density

• Density at 20 °C: ~1.1 g/cm³ Not determined.

Relative densityVapour densityNot determined.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 content:

• **Water:** ≥85.0 %

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· VOC (EC)	0.00 %	
· 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 flamma	ble	
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 Substance or mixture having a corrosive effect on metals.
- 10.2 Chemical stability Stable when stored and handled properly.
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · 10.3 Possibility of hazardous reactions

Reacts with alkali (Ives).

Reacts with oxidising agents.

Reacts with various metals.

Corrosive action on metals.

- · 10.4 Conditions to avoid Heat, flames and sparks.
- · 10.5 Incompatible materials: Avoid contact with other chemicals.
- 10.6 Hazardous decomposition products:

Chlorine

Hydrogen chloride (HCI)

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 skin irritation.
- · Serious eye damage/irritation Causes serious eye 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.

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- · 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

Anorganic product, is not eliminable from water by means of biological cleaning processes.

· 12.3 Bioaccumulative potential

Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected.

- 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
- · Additional ecological information:
- · General notes:

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

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. 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.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

Observe local (country-specific) regulations and laws.

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

Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system. Chemicals must be disposed of in accordance with the respective national regulations.

· European waste catalogue	
06 00 00	WASTES FROM INORGANIC CHEMICAL PROCESSES
06 01 00	wastes from the manufacture, formulation, supply and use (MFSU) of acids
06 01 02*	hydrochloric acid
HP8	Corrosive

- · Uncleaned 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 or ID number
- · ADR, IMDG, IATA

UN1789

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(Contd. of page 8) · 14.2 UN proper shipping name · ADR 1789 HYDROCHLORIC ACID solution · IMDG, IATA HYDROCHLORIC ACID solution · 14.3 Transport hazard class(es) · ADR · Class 8 (C1) Corrosive substances. · Label · IMDG, IATA · Class 8 Corrosive substances. · Label 8 · 14.4 Packing group · ADR, IMDG, IATA Ш · 14.5 Environmental hazards: Not applicable. · 14.6 Special precautions for user Warning: Corrosive substances. · Hazard identification number (Kemler code): · EMS Number: F-A,S-B · Segregation groups (SGG1) Acids · Stowage Category 14.7 Maritime transport in bulk according to IMO instruments Not applicable. · Transport/Additional information: · ADR · 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 · Tunnel restriction code Ε 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 1789 HYDROCHLORIC ACID SOLUTION, 8, II · UN "Model Regulation":

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SECTION 15: Regulatory information

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Inventory of Hazardous Chemicals

None of the ingredients is listed.

- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I 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.

- · REGULATION (EU) 2019/1148
- Annex I RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

· Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

· Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

 Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

- · National regulations:
- · Information about limitation of use:

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not 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.

The application, use and processing of our products are beyond our control and are therefore exclusively your responsibility.

· Relevant phrases

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

- · Department issuing SDS: Product management
- · Contact: Product management
- · Version number of previous version: 11
- 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)

VOC: Volatile Organic Compounds (USA, EU)

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PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative Met. Corr.1: Corrosive to metals – Category 1 Skin Corr. 1B: Skin corrosion/irritation – Category 1B Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

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

* Data compared to the previous version altered.