

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

revised on: 31.07.2023

Version number 11

Creation Date: 15.09.2016

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Trade name: Hydrochloric acid conc. Volumetric solution in 0.1 mol / l (0.1 N)****Article number:** 814**CAS Number:** -**Registration number** This product is a mixture. For relevant UK REACH registration numbers see section 3.**UFI:** J141-P0D2-800K-QCJ3**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

PC39 Cosmetics, personal care products

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

ERC3 Formulation into solid matrix

ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

ERC5 Use at industrial site leading to inclusion into/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

(Contd. on page 2)

E

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 31.07.2023

Version number 11

Creation Date: 15.09.2016

Trade name: Hydrochloric acid conc. Volumetric solution in 0.1 mol / l (0.1 N)

(Contd. of page 1)

sicherheitsdatenblaetter@thgeyer.de

- **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.

- **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

- **Signal word** Warning
- **Hazard-determining components of labelling:**
Hydrochloric acid
- **Hazard statements**
H290 May be corrosive to metals.
- **Precautionary statements**
P234 Keep only in original packaging.
P390 Absorb spillage to prevent material damage.
- **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 of substances listed below with nonhazardous additions.
- **Dangerous components:**

CAS: 7647-01-0	Hydrochloric acid	5-<8%
EINECS: 231-595-7	 Met. Corr. 1, H290; Skin Corr. 1B, H314; Eye Dam. 1, H318	
Reg.nr.: 01-2119484862-27-XXXX	 STOT SE 3, H335	

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 31.07.2023

Version number 11

Creation Date: 15.09.2016

Trade name: Hydrochloric acid conc. Volumetric solution in 0.1 mol / l (0.1 N)

(Contd. of page 2)

- **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 doctor in case of complaints.
- **After skin contact:**
Wash with plenty of soap and water, take off dirty clothes and shoes.
Consult a doctor if symptoms persist.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
Remove any contact lenses if possible.
Continue rinsing.
- **After swallowing:**
Rinse mouth thoroughly with water.
Make victim drink water (two glasses at most).
Call a doctor immediately.
- **Information for doctor:** Please observe safety data sheet/label.
- **4.2 Most important symptoms and effects, both acute and delayed**
If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.
- **Hazards** Danger of gastric perforation.
- **4.3 Indication of any immediate medical attention and special treatment needed** none

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**
Non-flammable.
In case of fire, the following can be released:
Hydrogen chloride (HCl)
Under certain fire conditions, traces of other toxic gases cannot be excluded.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
Wear fully protective suit.
- **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**
Particular danger of slipping on leaked/spilled product.
Avoid contact with eyes and skin.
Ensure adequate ventilation.
Use respiratory protective device against the effects of fumes/dust/aerosol.
Wear protective equipment. Keep unprotected persons away.

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 31.07.2023

Version number 11

Creation Date: 15.09.2016

Trade name: Hydrochloric acid conc. Volumetric solution in 0.1 mol / l (0.1 N)

(Contd. of page 3)

• **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:**

- Cover the sewerage system.
- 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**

- Apply the general protective and hygienic measures when handling chemicals.
- Prevent formation of aerosols.

• **Information about fire - and explosion protection:**

- Substance itself does not burn, adapt extinguishing measures to surroundings
- Keep respiratory protective device available.

• **7.2 Conditions for safe storage, including any incompatibilities**

• **Storage:**

- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:** Store away from metals.
- **Further information about storage conditions:**

- Store in dry conditions.
- Protect from humidity and water.
- Keep container tightly sealed.

• **Storage class:** 12

• **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/m ³ , 5 ppm
	Long-term value: 2 mg/m ³ , 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

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 31.07.2023

Version number 11

Creation Date: 15.09.2016

Trade name: Hydrochloric acid conc. Volumetric solution in 0.1 mol / l (0.1 N)

(Contd. of page 4)

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 a full 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**

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.

NBR: Acrylonitrile butadiene rubber

Material thickness > 0.11 mm

- **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**



Safety glasses

- **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:**

Characteristic

- **Melting 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:**

- **Kinematic viscosity**

Not determined.

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 31.07.2023

Version number 11

Creation Date: 15.09.2016

Trade name: Hydrochloric acid conc. Volumetric solution in 0.1 mol / l (0.1 N)

(Contd. of page 5)

· Dynamic:	Not determined.
· Solubility	
· water:	Fully miscible.
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure:	Not determined.
· Density and/or relative density	
· Density at 20 °C:	~1 g/cm ³
	Not determined.
· 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 content:	
· Water:	≥92.0 %
· 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 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** 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** Corrosive action on metals.
- **10.4 Conditions to avoid**
Protect from humidity.
Heat, flames and sparks.
- **10.5 Incompatible materials:** Avoid contact with other chemicals.

(Contd. on page 7)

E

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 31.07.2023

Version number 11

Creation Date: 15.09.2016

Trade name: Hydrochloric acid conc. Volumetric solution in 0.1 mol / l (0.1 N)

(Contd. of page 6)

- **10.6 Hazardous decomposition products:** In case of fire: see section 5.

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.

- **LD/LC50 values relevant for classification:**

ATE (Acute Toxicity Estimates)

Oral	LD50	>3,600–9,000 mg/kg (rabbit)
------	------	-----------------------------

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **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** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **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.
- **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**
- **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.

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 31.07.2023

Version number 11

Creation Date: 15.09.2016

Trade name: Hydrochloric acid conc. Volumetric solution in 0.1 mol / l (0.1 N)



(Contd. of page 7)

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

<ul style="list-style-type: none"> · 14.1 UN number or ID number · ADR, IMDG, IATA 	UN1789
<ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG, IATA 	1789 HYDROCHLORIC ACID solution HYDROCHLORIC ACID solution
<ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR 	
<ul style="list-style-type: none"> · Class · Label 	8 (C1) Corrosive substances. 8
<ul style="list-style-type: none"> · IMDG, IATA 	
<ul style="list-style-type: none"> · Class · Label 	8 Corrosive substances. 8
<ul style="list-style-type: none"> · 14.4 Packing group · ADR, IMDG, IATA 	III
<ul style="list-style-type: none"> · 14.5 Environmental hazards: 	Not applicable.
<ul style="list-style-type: none"> · 14.6 Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Segregation groups · Stowage Category 	Warning: Corrosive substances. 80 F-A,S-B (SGG1) Acids C
<ul style="list-style-type: none"> · 14.7 Maritime transport in bulk according to IMO instruments 	Not applicable.
<ul style="list-style-type: none"> · Transport/Additional information: 	
<ul style="list-style-type: none"> · ADR · Limited quantities (LQ) 	5L

(Contd. on page 9)

E

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 31.07.2023

Version number 11

Creation Date: 15.09.2016

Trade name: Hydrochloric acid conc. Volumetric solution in 0.1 mol / l (0.1 N)

(Contd. of page 8)

· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category	3
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 1789 HYDROCHLORIC ACID SOLUTION, 8, III

SECTION 15: Regulatory information

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

· **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.

· **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 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.

(Contd. on page 10)

E

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 31.07.2023

Version number 11

Creation Date: 15.09.2016

Trade name: Hydrochloric acid conc. Volumetric solution in 0.1 mol / l (0.1 N)

(Contd. of page 9)

H318 Causes serious eye damage.
H335 May cause respiratory irritation.

· **Department issuing SDS:** Product management

· **Contact:** Product management

· **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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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

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

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

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

E

(Contd. on page 11)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 31.07.2023

Version number 11

Creation Date: 15.09.2016

Trade name: Hydrochloric acid conc. Volumetric solution in 0.1 mol / l (0.1 N)

(Contd. of page 10)

Annex: Exposure scenario

- **Short title of the exposure scenario** Chemicals for laboratory and industry
- **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
 - PC39 Cosmetics, personal care products
 - 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
 - ERC3 Formulation into solid matrix
 - ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
 - ERC5 Use at industrial site leading to inclusion into/onto article
 - ERC6a Use of intermediate
- **Description of the activities / processes covered in the Exposure Scenario**
 - See section 1 of the annex to the Safety Data Sheet.
- **Conditions of use**
- **Duration and frequency** 5 workdays/week.
- **Physical parameters**
- **Physical state** Fluid
- **Concentration of the substance in the mixture** The substance is main component.
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure** No special measures required.
- **Other operational conditions affecting worker exposure**
 - Avoid contact with eyes.
 - Avoid contact with the skin.
 - Do not breathe gas/vapour/aerosol.
- **Other operational conditions affecting consumer exposure** Keep out of the reach of children.
- **Other operational conditions affecting consumer exposure during the use of the product**
 - Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures** No special measures required.
- **Technical protective measures** Ensure that suitable extractors are available on processing machines
- **Personal protective measures**
 - Do not inhale gases / fumes / aerosols.
 - Avoid contact with the skin.
 - Avoid contact with the eyes.

(Contd. on page 12)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 31.07.2023

Version number 11

Creation Date: 15.09.2016

Trade name: Hydrochloric acid conc. Volumetric solution in 0.1 mol / l (0.1 N)

(Contd. of page 11)

Tightly sealed goggles

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 a full 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)

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

- **Measures for consumer protection**

- Ensure adequate labelling.

- Keep locked up and out of the reach of children.

- **Environmental protection measures**

- **Water**

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

- **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 (oral)** Detailed information on the exposure estimation can be found at <http://www.ecetoc.org/tra>.

- **Worker (dermal)** Detailed information on the exposure estimation can be found at <http://www.ecetoc.org/tra>.

- **Worker (inhalation)**

- Detailed information on the exposure estimation can be found at <http://www.ecetoc.org/tra>.

- **Environment**

- Detailed information on the estimation of the environmental exposure can be found at <http://ecb.jrc.ec.europa.eu/euses/>.

- **Consumer** Not relevant for this Exposure Scenario.

- **Guidance for downstream users** No further relevant information available.