

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

revised on: 23.01.2023

Version number 13

Creation Date: 26.05.2015

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

1.1 Product identifier

Trade name: Sulfuric acid

- Article number: 822, 831, 849, 859, 863, 874, 877, 883, 898, 3096
- CAS Number: 7664-93-9
- Registration number This product is a mixture. UK REACH registration numbers see section 3.
- UFI: 4HR1-K025-S00W-VUTR

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

- PC21 Laboratory chemicals
- PC19 Intermediate
- PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
- 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
- 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
- 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
- Reagent for analysis
- Laboratory chemicals

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.
Skin Corr. 1B H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.

- **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** Danger
- **Hazard-determining components of labelling:**
Sulphuric acid
- **Hazard statements**
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/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.
P390 Absorb spillage to prevent material damage.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Additional information:**
Product contains: Restricted explosives precursors. Making available, introduction, possession and use according to Regulation (EU) 2019/1148, Article 5 (1) and (3).

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- **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: 7664-93-9	Sulphuric acid	≥60.00%
EINECS: 231-639-5	⚠ Met. Corr. 1, H290; Skin Corr. 1B, H314; Eye Dam. 1, H318	
Reg.nr.: 01-2119458838-20-XXXX		

- **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:**
 - Get some fresh air.
 - Call a doctor immediately.
 - In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
 - Treat affected skin with cotton wool or cellulose. Then wash and rinse thoroughly with water and a mild cleaning agent.
 - Take off immediately all contaminated clothing.
 - Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.
- **After eye contact:**
 - Protect unharmed eye.
 - Rinse opened eye for several minutes under running water. Then consult a doctor.
 - Remove contact lenses
- **After swallowing:**
 - Call a doctor immediately.
 - Rinse mouth and then drink 200 - 300 ml of water.
 - If swallowed, there is a risk of perforation of the esophagus and stomach (strong caustic effect).
- **Information for doctor:** Please observe safety data sheet/label.
- **4.2 Most important symptoms and effects, both acute and delayed**
 - Cramp
 - Nausea
 - Unconsciousness
 - Gastric or intestinal disorders
- **Hazards**
 - Danger of gastric perforation.
 - Danger of circulatory collapse.
 - Danger of pulmonary oedema.
 - Danger of pneumonia.
- **4.3 Indication of any immediate medical attention and special treatment needed**
 - No further relevant information available.

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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**
In case of fire, the following can be released:
Sulphur dioxide (SO₂)
Ambient fire may liberate hazardous vapours.
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.
- **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Consult an expert.
Keep people at a distance and stay on the windward side.
Particular danger of slipping on leaked/spilled product.
Avoid contact with eyes and skin.
Use respiratory protective device against the effects of fumes/dust/aerosol.
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
Dilute with plenty of water.
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 item 13.
Dispose of the material collected according to regulations.
- **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**
Keep away from heat and direct sunlight.
Apply the general protection and hygiene measures for the handling with chemicals.
Store in cool, dry place in tightly closed receptacles.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Substance itself does not burn, tuning measures to environment
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Provide acid-resistant floor.
Prevent any seepage into the ground.
Store only in the original receptacle.

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- **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 water.
- Store away from metals.
- Store away from foodstuffs.

- **Further information about storage conditions:**

- Caution when reopening receptacles with broken seal.
- Protect from humidity and water.
- Protect from contamination.
- Protect from frost.
- 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: 7664-93-9 Sulphuric acid

WEL	Long-term value: 0.05* mg/m ³ *mist: defined as thoracic fraction
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- **PNECs**

- values relevant to the environment
- PNEC 0.176 mg/l freshwater short-term (single)
- PNEC 0.018 mg/l seawater short-term (one-off)
- PNEC 1.35 mg/l Wastewater treatment plant (STP) short-term (one-off)
- PNEC 6.97 mg/kg freshwater sediment short-term (single)
- PNEC 0.697 mg/kg marine sediment short-term (single)
- PNEC 1.29 mg/kg soil short-term (single)
- **Additional information:** The lists valid during the making were used as basis.

- **8.2 Exposure controls**

- **Appropriate engineering controls** No further data; see item 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.
Wash hands before breaks and at the end of work.
- **Respiratory protection:** Not required.
- **Hand protection**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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.

- **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.

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· **Eye/face protection**

Tightly sealed goggles

Face protection

· **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:	Colourless
· Odour:	Characteristic
· Odour threshold:	Not determined.
· Melting point/freezing point:	~3 °C
· Boiling point or initial boiling point and boiling range	~330 °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.
· Dynamic:	Not determined.
· Solubility	
· water:	Fully miscible.
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure at 20 °C:	~0 hPa
· Density and/or relative density	
· Density at 20 °C:	1.5–1.9 g/cm ³
· 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.	
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product does not present an explosion hazard.
· Solvent content:	
· Water:	≤40.0 %
· VOC (EC)	0.00 %
· Change in condition	
· Evaporation rate	Not determined.

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· 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** No further relevant information available.
- **10.2 Chemical stability** Stable with proper storage and handling.
- **10.3 Possibility of hazardous reactions**
Violent reaction with water at higher temperatures.
Violent reactions with strong alkalis and oxidising agents.
Reacts with amines.
Explosive reaction with oxidising agents such as calcium chlorate and or peroxides.
Reacts with alkaline metals.
Explosive reaction with water.
- **10.4 Conditions to avoid**
Protect from humidity.
Heat, flames and sparks
- **10.5 Incompatible materials:** Avoid contact with other chemicals.
- **10.6 Hazardous decomposition products:** On fire: see chapter 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:

CAS: 7664-93-9 Sulphuric acid		
Oral	LD50	2,140 mg/kg (rat)

- **Skin corrosion/irritation** Causes severe skin burns and eye damage.
- **Serious eye damage/irritation** Causes serious eye damage.
- **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.

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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 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:

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 material 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 compliance with the respective national regulations.

European waste catalogue

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

UN1830

14.2 UN proper shipping name
ADR

1830 SULPHURIC ACID

IMDG, IATA

SULPHURIC ACID

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<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 	II
<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 · Stowage Code · Segregation Code 	Warning: Corrosive substances. 80 F-A,S-B (SGG1a) Strong acids C SW15 For metal drums, stowage category B. SG36 Stow "separated from" SGG18-alkalis. SG49 Stow "separated from" SGG6-cyanides
<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) · Excepted quantities (EQ) 	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<ul style="list-style-type: none"> · Transport category · Tunnel restriction code 	2 E
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<ul style="list-style-type: none"> · UN "Model Regulation": 	UN 1830 SULPHURIC ACID, 8, II

SECTION 15: Regulatory information

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

- **Inventory of Hazardous Chemicals**

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- **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))**

CAS: 7664-93-9	Sulphuric acid	Limit value: >15–≤40 %	≥60.00%
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· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

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

CAS: 7664-93-9	Sulphuric acid		3
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· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

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· **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. Application, use and handling of our products take place out of our control and are solely your responsibility.

· **Relevant phrases**

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

· **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)

PNES: Predicted No-Effect Concentration (UK REACH)

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

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