

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

revised on: 12.05.2023

Version number 12

Creation Date: 30.10.2015

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Trade name: Sulfuric acid 0.5 mol / l****Article number:** 855**CAS Number:** 7664-93-9**Registration number** 01-2119458838-20-XXXX**UFI:** 35M0-10PM-M001-C6R5**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

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

PROC15 Use as laboratory reagent

Environmental release category

ERC1 Manufacture of the substance

ERC2 Formulation into mixture

ERC3 Formulation into solid matrix

ERC6a Use of intermediate

Application of the substance / the mixture

Industrial use

Laboratory chemicals

Reagent for analysis

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

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 12.05.2023

Version number 12

Creation Date: 30.10.2015

Trade name: Sulfuric acid 0.5 mol / l

(Contd. of page 1)

- **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:**
Sulphuric acid
- **Hazard statements**
H290 May be corrosive to metals.
- **Precautionary statements**
P234 Keep only in original packaging.
P390 Absorb spillage to prevent material damage.
P406 Store in a corrosion resistant container / container with a resistant inner liner.
- **Additional information:**
Product contains: Reportable explosives precursors. Making available, introduction, possession and use according to Regulation (EU) 2019/1148, Article 9.
- **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	≥2.5–<5%
EINECS: 231-639-5	 Met. Corr.1, H290; Skin Corr. 1B, H314; Eye Dam. 1, H318	
Reg.nr.: 01-2119458838-20-XXXX		

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 12.05.2023

Version number 12

Creation Date: 30.10.2015

Trade name: Sulfuric acid 0.5 mol / l

(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.

· **After inhalation:**

Supply fresh air.

If symptoms occur or in case of doubt, seek medical advice.

· **After skin contact:**

Flush contaminated skin with soap and plenty of water.

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.

Drink plenty of water and provide fresh air. Call for a doctor immediately.

· **Information for doctor:** Please observe safety data sheet/label.

· **4.2 Most important symptoms and effects, both acute and delayed**

Cramp

Gastric or intestinal disorders

Nausea

· **Hazards** Strongly irritant to corrosive

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

Give Glucocorticoid-Aerosol in case of lung irritation.

Symptomatic treatment.

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)

Formation of toxic gases is possible during heating or in case of fire.

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

· 5.3 Advice for firefighters

· **Protective equipment:** Do not inhale explosion gases or combustion gases.

· **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.

Provide adequate ventilation and do not vapors, dust or gases.

Particular danger of slipping on leaked/spilled product.

Avoid contact with eyes and skin.

Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:** Do not allow to enter sewers/surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Cover drains.

Prevent area-wide spreading (e.g. by damming or oil booms).

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 12.05.2023

Version number 12

Creation Date: 30.10.2015

Trade name: Sulfuric acid 0.5 mol / l

(Contd. of page 3)

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

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**

Keep away from heat and direct sunlight.

Apply the general protection and hygiene measures for the handling with chemicals.

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.

Store only in the original receptacle.

· **Information about storage in one common storage facility:**

Store away from oxidising agents.

Store away from flammable substances.

· **Further information about storage conditions:** 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: 7664-93-9 Sulphuric acid

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

· **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.

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 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)

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 12.05.2023

Version number 12

Creation Date: 30.10.2015

Trade name: Sulfuric acid 0.5 mol / l

(Contd. of page 4)

· 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 application > 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:

Characteristic

· Melting point/freezing point:

0 °C

· Boiling point or initial boiling point and boiling range

~330 °C (CAS: 7664-93-9 Sulphuric acid)

· 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 at 20 °C:

0.952 mPas

· Solubility

· water:

Fully miscible.

· Partition coefficient n-octanol/water (log value)

Not determined.

· Vapour pressure at 20 °C:

23 hPa

(Contd. on page 6)

E

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 12.05.2023

Version number 12

Creation Date: 30.10.2015

Trade name: Sulfuric acid 0.5 mol / l

(Contd. of page 5)

· Density and/or relative density	
· Density at 20 °C:	1.02–1.08 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:	95–<97.5 %
· VOC (EC)	0.00 %
· Molecular weight	18.02 g/mol
· 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** No further relevant information available.
- **10.2 Chemical stability** Stable with proper storage and handling.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Reacts with strong oxidising agents.
- **10.4 Conditions to avoid** 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.
- **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.

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 12.05.2023

Version number 12

Creation Date: 30.10.2015

Trade name: Sulfuric acid 0.5 mol / l

(Contd. of page 6)

- **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 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**

06 00 00	WASTES FROM INORGANIC CHEMICAL PROCESSES
06 01 00	wastes from the manufacture, formulation, supply and use (MFSU) of acids
06 01 01*	sulphuric acid and sulphurous acid

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 12.05.2023



Version number 12

Creation Date: 30.10.2015

Trade name: Sulfuric acid 0.5 mol / l

(Contd. of page 7)

SECTION 14: Transport information

<ul style="list-style-type: none"> · 14.1 UN number or ID number · ADR, IMDG, IATA 	UN2796	
<ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG, IATA 	2796 SULPHURIC ACID SULPHURIC ACID	
<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 · Segregation Code 	Warning: Corrosive substances. 80 F-A,S-B (SGG1a) Strong acids 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) · Transport category · Tunnel restriction code 	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml 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 2796 SULPHURIC ACID, 8, II	

(Contd. on page 9)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 12.05.2023

Version number 12

Creation Date: 30.10.2015

Trade name: Sulfuric acid 0.5 mol / l

(Contd. of page 8)

SECTION 15: Regulatory information

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

Inventory of Hazardous Chemicals

CAS: 7664-93-9 | Sulphuric acid

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

CAS: 7664-93-9 | Sulphuric acid

3

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

CAS: 7664-93-9 | Sulphuric acid

3

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)

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.