

Trade name: Sulphuric acid**Current version :** 1.1.0, issued: 24.03.2023**Replaced version:** 1.0.0, issued: 24.03.2023**Region:** GB**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name****Sulphuric acid**

Substance name sulfuric acid 96.2 - 98.9 %
REACH registration no. 01-2119458838-20

Identification numbers

CAS no. 7664-93-9
EC no. 231-639-5
Index no. 016-020-00-8

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

Industrial use:

Formulation

Intermediate

Process chemicals

Extraction and processing of minerals and ores

surface treatment (finishing)

electrolytic processes

Gas treatment

Battery production

cleaning compound

Recycling processes

Professional use

laboratory chemical

Consumer use:

Batteries

drain cleaner

Uses advised against

None known, please note the relevant identified uses

1.3 Details of the supplier of the safety data sheet**Address**

Nyrstar Stolberg GmbH

Binsfeldhammer 14

D-52224 Stolberg

Telephone no. +49 (0) 2402 - 1206 - 100

Fax no. +49 (0) 2402 - 1206 - 209

e-mail stl@nyrstar.com

Advice on Safety Data Sheet

sdb_info@umco.de

1.4 Emergency telephone number

For medical advice (in German and English):

+49 (0)551 192 40 (Giftinformationszentrum Nord)

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification in accordance with Regulation (EC) No 1272/2008 (CLP)**

Eye Dam. 1; H318

Skin Corr. 1A; H314

Classification information

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This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:

Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP

Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3 and 4 of Annex I to CLP.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)

Product identifier

7664-93-9 (sulphuric acid)

Hazard pictograms



GHS05

Signal word

Danger

Hazard statement(s)

H314 Causes severe skin burns and eye damage.

Precautionary statement(s)

P260 Do not breathe mist/vapours/spray.

P264 Wash thoroughly after handling.

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

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

2.3 Other hazards

No data available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical characterization

Substance name sulfuric acid 96.2 - 98.9 %

Formula H₂ SO₄

Identification numbers

CAS no. 7664-93-9

EC no. 231-639-5

Index no. 016-020-00-8

Other information

Note	Specific concentration limits	M-factor (acute)	M-factor (chronic)
B	Eye Irrit. 2; H319: C ≥ 5% Skin Irrit. 2; H315: C ≥ 5% Eye Dam. 1; H318: C ≥ 15% Skin Corr. 1A; H314: C ≥ 15%	-	-

Full text for the notes: pls. see section 16 "Notes relating to the identification, classification and labelling of substances ((EC) No 1272/2008, Annex VI)".

3.2 Mixtures

Not applicable. The product is not a mixture.

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Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing.

After inhalation

Remove affected persons from dangerous area by observing suitable respiratory protection measures. Remove to fresh air, keep patient warm and at rest. Call a doctor immediately.

After skin contact

Wash immediately with plenty of water for several minutes. Call a doctor immediately.

After eye contact

Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes). Call a doctor immediately.

After ingestion

Rinse out mouth and give plenty of water to drink. Do not induce vomiting (risk of perforation!). Call a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

Dab off with polyethylene glycol 400.

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Product itself is non-combustible; adapt fire extinguishing measures to surrounding areas.

Unsuitable extinguishing media

High power water jet

5.2 Special hazards arising from the substance or mixture

In case of fires, hazardous combustion gases are formed: Sulphur oxides (SxOy)

5.3 Advice for firefighters

Use self-contained breathing apparatus. Cool endangered containers with water spray jet. Wear protective clothing.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Refer to protective measures listed in sections 7 and 8.

For emergency responders

Personal protective equipment (PPE) - see section 8.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g., acid binder). Send in suitable containers for recovery or disposal.

6.4 Reference to other sections

Information regarding safe handling, see section 7. Information regarding personal protective measures, see section 8. Information regarding waste disposal, see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

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Advice on safe handling

Risks inherent to handling the product must be minimised by applying the appropriate protective and preventive measures. Working processes should - so far as possible, according to the state of the art - be designed to rule out bodily contact or the release of hazardous substances.

General protective and hygiene measures

Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Do not inhale vapours. Avoid contact with eyes and skin. Remove contaminated clothing and shoes and launder thoroughly before reusing. After worktime and during work intervals the affected skin areas must be thoroughly cleaned.

Advice on protection against fire and explosion

No special measures necessary.

7.2 Conditions for safe storage, including any incompatibilities**Technical measures and storage conditions**

Keep container tightly closed and dry in a cool, well-ventilated place.

Requirements for storage rooms and vessels

Containers which are opened must be carefully resealed and kept upright to prevent leakage. Always keep in containers of same material as the original.

Incompatible products

Do not store together with: Alkali metals; Ammonia; Aldehydes; Earth alkali metals; Alkalies; combustible materials; Phosphorous; Nitrates; hydrogen peroxide; Keep away from water.

7.3 Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Occupational exposure limit values**

No	Substance name	CAS no.	EC no.
1	sulphuric acid	7664-93-9	231-639-5
	2009/161/EU		
	sulphuric acid (mist)		
	Mist		
	WEL long-term (8-hr TWA reference period)	0.05	mg/m ³
	List of approved workplace exposure limits (WELs) / EH40		
	Sulphuric acid mist		
	WEL long-term (8-hr TWA reference period)	0.05	mg/m ³
	Comments	The mist is defined as the thoracic fraction	

DNEL, DMEL and PNEC values**DNEL values (worker)**

No	Substance name	CAS / EC no		
	Route of exposure	Exposure time	Effect	Value
1	sulphuric acid			7664-93-9 231-639-5
	inhalative	Short term (acute)	local	0.1 mg/m ³
	inhalative	Long term (chronic)	local	0.05 mg/m ³

8.2 Exposure controls**Appropriate engineering controls**

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

Personal protective equipment**Respiratory protection**

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If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn.
combination filter

Respirator E-P2

Eye / face protection

Tightly fitting safety glasses (EN 166).

Hand protection

Check in any case suitability of protective glove for the specific workplace conditions (e.g. mechanical resistance, product compatibility, antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Replace immediately protective gloves if worn or damaged. Make sure that operations are designed so that it is not necessary to wear continuously protective gloves.

Appropriate Material	fluorinated rubber		
Material thickness	>=	0.4	mm
Breakthrough time	>=	8	h
Appropriate Material	butyl rubber		
Material thickness	>=	0.5	mm
Breakthrough time	>=	120	min

Other

acid-proof protective clothing

Environmental exposure controls

No data available.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****State of aggregation**

liquid

Colour

colourless to brown

Odour

odourless

pH value

Value	0.9	
Reference temperature	20	°C
Method	DIN ISO 787 - 9	

Boiling point / boiling range

Value	>	290	°C
Reference pressure		1013	hPa
Method	OECD 103		
Source	CSR		

Melting point/freezing point

Value	appr. 10.4	-	10.9	°C
Method	OECD 102			
Source	CSR			

Decomposition temperature

No data available

Flash point

Not applicable

Ignition temperature

No data available

Oxidising properties

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cannot be determined

Explosive properties

The product does not have explosive properties.

Flammability

Not relevant

Lower explosion limit

No data available

Upper explosion limit

No data available

Vapour pressure

Value	130	Pa
Reference temperature	148.5	°C
Method	EU method A.4	
Source	CSR	

Relative vapour density

No data available

Relative density

No data available

Density

Value	1.8144 - 1.8305	kg/l
Reference temperature	20	°C
Method	OECD 109	
Source	CSR	

Solubility in water

Source	CSR
Comments	Completely miscible

Solubility

No data available

Partition coefficient n-octanol/water (log value)

Partition coefficient n-octanol/water (log value)			
No	Substance name	CAS no.	EC no.
1	sulphuric acid	7664-93-9	231-639-5
log Pow		-1	
Method		estimated value	
Source		CSR	

Kinematic viscosity

Value	22.5	mPa*s
Reference temperature	20	°C
Type	dynamic	
Source	CSR	
Value	12.3 - 12.4	mm²/s
Reference temperature	20	°C
Type	kinematic	
Method	calculated	

Particle characteristics

No data available

9.2 Other information**Other information**

No data available.

SECTION 10: Stability and reactivity

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No data available.

10.2 Chemical stability

No data available.

10.3 Possibility of hazardous reactions

sulphuric acid reacts violently with water and alkaline media.

10.4 Conditions to avoid

Heat

10.5 Incompatible materials

Water; Alkali metals; Ammonia; Aldehydes; Earth alkali metals; Alkalies; Phosphorous; Nitrates; combustible materials; hydrogen peroxide

10.6 Hazardous decomposition products

None if stored, handled and transported properly. hydrogen gas is formed upon contact with some metals.

SECTION 11: Toxicological information**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Acute oral toxicity			
No	Substance name	CAS no.	EC no.
1	sulphuric acid	7664-93-9	231-639-5
LD50		2140	mg/kg bodyweight
Species	rat		
Method	OECD 401		
Source	CSR		
Acute dermal toxicity			
No data available			
Acute inhalational toxicity			
No data available			
Skin corrosion/irritation			
No data available			
Serious eye damage/irritation			
No data available			
Respiratory or skin sensitisation			
No data available			
Germ cell mutagenicity			
No data available			
Reproduction toxicity			
No data available			
Carcinogenicity			
No data available			
STOT - single exposure			
No data available			
STOT - repeated exposure			
No data available			
Aspiration hazard			
No data available			

11.2 Information on other hazards

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Endocrine disrupting properties

No data available.

Other information

No data available.

SECTION 12: Ecological information**12.1 Toxicity**

Toxicity to fish (acute)			
No	Substance name	CAS no.	EC no.
1	sulphuric acid	7664-93-9	231-639-5
LC50		16	28
Duration of exposure			96
Species	Lepomis macrochirus		
Source	CSR		

Toxicity to fish (chronic)			
No	Substance name	CAS no.	EC no.
1	sulphuric acid	7664-93-9	231-639-5
NOEC			0.025
Duration of exposure			65
Species	Jordanella floridae		
Method	OECD 210		
Source	CSR		

Toxicity to Daphnia (acute)			
No	Substance name	CAS no.	EC no.
1	sulphuric acid	7664-93-9	231-639-5
EC50		>	100
Duration of exposure			48
Species	Daphnia magna		
Method	OECD 202		
Source	CSR		

Toxicity to Daphnia (chronic)			
No	Substance name	CAS no.	EC no.
1	sulphuric acid	7664-93-9	231-639-5
NOEC			0.15
Species	T. dissimilis		
Method	OECD 211		
Source	CSR		

Toxicity to algae (acute)			
No	Substance name	CAS no.	EC no.
1	sulphuric acid	7664-93-9	231-639-5
EC50		>	100
Duration of exposure			72
Species	Desmodesmus subspicatus		
Method	OECD 201		
Source	CSR		

Toxicity to algae (chronic)			
No data available			

Bacteria toxicity			
No	Substance name	CAS no.	EC no.
1	sulphuric acid	7664-93-9	231-639-5
NOEC			26000
Duration of exposure			37
Species	activated sludge		
Source	CSR		

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12.2 Persistence and degradability

Biodegradability		
No	Substance name	CAS no. EC no.
1	sulphuric acid	7664-93-9 231-639-5
Source		CSR
Evaluation		Not applicable for inorganic substances.

12.3 Bioaccumulative potential

Partition coefficient n-octanol/water (log value)		
No	Substance name	CAS no. EC no.
1	sulphuric acid	7664-93-9 231-639-5
log Pow		-1
Method		estimated value
Source		CSR

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

No data available.

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects

No data available.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product**

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

Packaging

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse. Packaging that cannot be cleaned should be disposed off as product waste.

SECTION 14: Transport information**14.1 Transport ADR/RID/ADN**

Class	8
Classification code	C1
Packing group	II
Hazard identification no.	80
UN number	UN1830
Proper shipping name	SULPHURIC ACID
Technical name	sulphuric acid
Tunnel restriction code	E
Label	8

14.2 Transport IMDG

Class	8
Packing group	II
UN number	UN1830
Proper shipping name	SULPHURIC ACID
Technical name	sulphuric acid
EmS	F-A, S-B
Label	8

14.3 Transport ICAO-TI / IATA

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Class	8
Packing group	II
UN number	UN1830
Proper shipping name	Sulphuric acid
Technical name	sulphuric acid
Label	8

14.4 Other information

No data available.

14.5 Environmental hazards

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

14.6 Special precautions for user

No data available.

14.7 Maritime transport in bulk according to IMO instruments

Not relevant

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulations****Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)**

In accordance with the REACH regulation (EC) 1907/2006, the product does not contain any substances that are considered as subject to listing in annex XIV, inventory of substances requiring authorisation.

REACH candidate list of substances of very high concern (SVHC) for authorisation

In accordance with article 57 and article 59 of the Reach regulation (EC) 1907/2006, this substance is not considered as subject to listing in annex XIV, inventory of substances requiring authorisation ("Authorization list").

Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES

The product is considered being subject to REACH regulation (EC) 1907/2006 annex XVII. No 3

The substance is considered being subject to REACH regulation (EC) 1907/2006 annex XVII.

No	Substance name	CAS no.	EC no.	No
1	sulphuric acid	7664-93-9	231-639-5	75

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances

This substance is not subject to Part 1 or 2 of Annex I

Other regulations

Adhere to the national regulations when using this product.

15.2 Chemical safety assessment

A chemical safety assessment has been carried out for this substance.

SECTION 16: Other information**Further information**

The registration number mentioned in section 1 is copyright of Ecobat Resources Stolberg GmbH and shall not be used for products from a different supplier.

Sources of key data used to compile the data sheet:

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

Directives 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164.

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding section.

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Full text of the H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)

H318 Causes serious eye damage.

Notes relating to the identification, classification and labelling of substances and mixtures ((EC) No 1272/2008, Annex VI)

B Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: 'nitric acid ... %'. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.

Creation of the safety data sheet

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These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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