

Sulfuric acid 96%

Version number: GHS 1.0

Date of compilation: 2020-11-02

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

1.1 Product identifier

Identification of the substance	Sulfuric acid 96%
Registration number (REACH)	01-2119458838-20-xxxx
CAS number	7664-93-9
Alternative name(s)	Sulphuric acid, sulfuric acid
Article number	A0276434

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

Relevant identified uses	General use
Uses advised against	Do not use for squirting or spraying. Do not use for products which come into direct contact with the skin.

1.3 Details of the supplier of the safety data sheet

Chemos GmbH & Co. KG
 Sonnenring 7
 84032 Altdorf
 Germany
 Telephone: +49 871-966346-0
 Telefax: +49 871-966346-13
 e-mail: chemos@chemos.de
 Website: <http://www.chemos.de/>

e-mail (competent person) chemos@chemos.de

1.4 Emergency telephone number

Emergency information service +49 89 1 92 40

Poison centre				
Country	Name	Postal code/city	Telephone	Telefax
United Kingdom	National Poison Information Centre Medical Toxicology Unit	SE14 5ER London	+44 171 635 91 91	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.16	substance or mixture corrosive to metals	1	Met. Corr. 1	H290
3.2	skin corrosion/irritation	1	Skin Corr. 1	H314
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318

For full text of abbreviations: see SECTION 16.

Sulfuric acid 96%

Version number: GHS 1.0

Date of compilation: 2020-11-02

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.

2.2 Label elements

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

- Signal word danger
 - Pictograms

GHS05



- 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. |
| 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. |
| P390 | Absorb spillage to prevent material damage. |
| P501 | Dispose of contents/container to industrial combustion plant. |

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	Sulfuric acid 96%
Identifiers	
REACH Reg. No	01-2119458838-20-xxxx
CAS No	7664-93-9
EC No	231-639-5
Index No	016-020-00-8
Molecular formula	H ₂ O ₄ S
Molar mass	98.07 g/mol

Sulfuric acid 96%

Version number: GHS 1.0

Date of compilation: 2020-11-02

SECTION 4: First aid measures**4.1 Description of first aid measures****General notes**

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

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

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO₂)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Substance or mixture corrosive to metals.

Hazardous combustion products

Sulphur oxides (SO_x)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Sulfuric acid 96%

Version number: GHS 1.0

Date of compilation: 2020-11-02

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

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Neutralisation techniques. Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas. Never add water to this product.

- Handling of incompatible substances or mixtures

Do not mix with alkali.

- Keep away from

Caustic solutions

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- Corrosive conditions

Store in corrosive resistant container with a resistant inner liner.

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

Sulfuric acid 96%

Version number: GHS 1.0

Date of compilation: 2020-11-02

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)											
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Notation	Source
EU	sulfuric acid	7664-93-9	IOELV		0.05					t, mist	2009/161/EU
GB	sulfuric acid	7664-93-9	WEL		0.05					t, mist	EH40/2005

Notation

Ceiling-C	ceiling value is a limit value above which exposure should not occur as mists
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
t	thoracic fraction
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Human health values

Relevant DNELs and other threshold levels				
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	0.05 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
DNEL	0.1 mg/m³	human, inhalatory	worker (industry)	acute - local effects

Environmental values

Relevant PNECs and other threshold levels				
Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	0.003 mg/l	aquatic organisms	freshwater	short-term (single instance)
PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
PNEC	8.8 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	0.002 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
PNEC	0.002 mg/kg	aquatic organisms	marine sediment	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Sulfuric acid 96%

Version number: GHS 1.0

Date of compilation: 2020-11-02

Skin protection**- Hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****Appearance**

Physical state	liquid
Colour	colourless
Odour	odourless

Other safety parameters

pH (value)	<1 (20 °C) (acid)
Melting point/freezing point	-15 °C
Initial boiling point and boiling range	295 – 315 °C
Flash point	not determined
Evaporation rate	not determined
Flammability (solid, gas)	not relevant, (fluid)
Explosive limits	not determined
Vapour pressure	<0.01 hPa at 20 °C
Density	1.84 g/cm³ at 20 °C
Vapour density	this information is not available
Solubility(ies)	not determined

Partition coefficient

- n-octanol/water (log KOW)	this information is not available
-----------------------------	-----------------------------------

Sulfuric acid 96%

Version number: GHS 1.0

Date of compilation: 2020-11-02

Auto-ignition temperature	not determined
Decomposition temperature	338 °C
Viscosity	
- Dynamic viscosity	26.9 mPa s at 20 °C
Explosive properties	none
Oxidising properties	none

9.2 Other information

Solvent content	100 %
-----------------	-------

SECTION 10: Stability and reactivity**10.1 Reactivity**

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". It's a reactive substance. Substance or mixture corrosive to metals.

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

Bases

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Classification according to GHS (1272/2008/EC, CLP)****Acute toxicity**

Shall not be classified as acutely toxic.

- Acute toxicity estimate (ATE)

Inhalation: dust/mist 0.85 mg/l/4h

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitisier.

Sulfuric acid 96%

Version number: GHS 1.0

Date of compilation: 2020-11-02

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information**12.1 Toxicity**

Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Waste treatment-relevant information**

Recycling/reclamation of other inorganic materials. Regeneration of acids.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

Sulfuric acid 96%

Version number: GHS 1.0

Date of compilation: 2020-11-02

SECTION 14: Transport information

14.1 UN number	1830
14.2 UN proper shipping name	SULPHURIC ACID
14.3 Transport hazard class(es)	
Class	8 (corrosive substances)
14.4 Packing group	II (substance presenting medium danger)
14.5 Environmental hazards	non-environmentally hazardous acc. to the dangerous goods regulations
14.6 Special precautions for user	Provisions for dangerous goods (ADR) should be complied within the premises.
14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code	The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

UN number	1830
Proper shipping name	SULPHURIC ACID
Class	8
Classification code	C1
Packing group	II
Danger label(s)	8



Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
Transport category (TC)	2
Tunnel restriction code (TRC)	E
Hazard identification No	80
Emergency Action Code	2P

International Maritime Dangerous Goods Code (IMDG)

UN number	1830
Proper shipping name	SULPHURIC ACID
Class	8
Marine pollutant	-
Packing group	II
Danger label(s)	8



Special provisions (SP)	-
-------------------------	---

Sulfuric acid 96%

Version number: GHS 1.0

Date of compilation: 2020-11-02

Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
EmS	F-A, S-B
Stowage category	C
Segregation group	1 - Acids

International Civil Aviation Organization (ICAO-IATA/DGR)

UN number	1830
Proper shipping name	Sulphuric acid
Class	8
Packing group	II
Danger label(s)	8



Excepted quantities (EQ)	E2
Limited quantities (LQ)	0,5 L

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Deco-Paint Directive (2004/42/EC)

VOC content	0 %
-------------	-----

Directive on industrial emissions (VOCs, 2010/75/EU)

VOC content	0 %
-------------	-----

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2009/161/EU	Commission Directive establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

Sulfuric acid 96%

Version number: GHS 1.0

Date of compilation: 2020-11-02

Abbr.	Descriptions of used abbreviations
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	Indicative occupational exposure limit value
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Sulfuric acid 96%

Version number: GHS 1.0

Date of compilation: 2020-11-02

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.