EC Safety Data Sheet

according to regulation (EC) no. 1907/2006, Article 31

Sulfite-1

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

1.1 Product identifier

Sulfite-1

Catalog number:

424360, 419210

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

Application of the substance / the preparation:

Reagent for water analysis

1.3. Details of the supplier who provides the safety data sheet

Company name:	CERTUSS GmbH
Street:	Hafenstr. 65
City:	D-47809 Krefeld
Phone:	+49 (0) 2151 578-0
Contact partner:	Mr. Hamacher
E-mail:	t.hamacher@certuss.com
Informing department:	Technical Director

Monday to Thursday from 9 – 16 (9 a.m. to 4 p.m.), Friday 9 – 14 (9 a.m. to 2 p.m.)

Emergency number +44 1235 239670. Languages: English

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.

GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms

GHS05

Signal word

Warning

Hazard statements

H290 May be corrosive to metals.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection.

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

P311 Call a doctor.

P302+P352 IF ON SKIN: Wash with plenty of water.

P391 Collect spillage.

2.3 Other hazards

No further relevant information available.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description:

sulfuric acid solution

Dangerous components		
CAS: 7664-93-9 EINECS: 231-639-5 Index No: 016-020-00-8 Reg.nr.: 01-2119458838-20-XXXX	Sulphuric acid Met. Corr.1, H290; Skin Corr. 1A, H314 Speific concentration limits: Skin Corr. 1A; H314: C ≥ 15 % Skin Irrit. 2; H315: 5 % ≤ C < 15 % Eye Dam. 1; H318: C ≥ 15 % Eye Irrit. 2; H319: 5 % ≤ C < 15 %	10 – < 15 %

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

Instantly remove any clothing soiled by the product.

After inhalation

Supply fresh air.

After skin contact

Instantly rinse with water.

If skin irritation continues, consult a doctor.

After eye contact

Rinse opened eye for several minutes (at least 15 min) under running water. Then consult doctor.

After swallowing

Rinse out mouth and then drink 1-2 glasses of water.

Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed:

irritations

after inhalation:

mucous membrane irritation

coughing

breathing difficulty

after swallowing:

damage to the affected mucous membranes

sickness

vomiting

Danger

Danger of pulmonary oedema. Danger of system failure.

4.3 Indication of any immediate medical attention and special treatment needed:

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents

Use fire fighting measures that suit the environment.

5.2 Special hazards arising from the substance or mixture

The product is not combustible.

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

Sulphur oxides (SOx)

5.3 Advice for firefighters

Protective equipment:

Wear self-contained breathing apparatus.

Wear full protective suit.

Additional information

Collect contaminated fire fighting water separately. It must not enter drains.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Advice for emergency responders:

Protective equipment: see section 8

6.2 Environmental precautions:

Do not allow product to reach sewage system or water bodies.

6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.

Neutralize with diluted sodium hydroxide solution.

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

Dispose of contaminated material as waste according to item 13.

6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling:

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Hygiene measures:

Avoid contact with the eyes.

Take off immediately all contaminated clothing.

Wash hands during breaks and at the end of the work.

Do not eat, drink or smoke when using this product.

7.2 Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and containers:

Store in cool location.

Information about storage in one common storage facility:

Store away from metals.

Do not store together with alkalis (caustic solutions).

Store away from flammable substances.

Further information about storage conditions:

Protect from heat and direct sunlight.

Protect from the effects of light.

Protect from humidity and keep away from water.

Recommended storage temperature:

20°C +/- 5°C

7.3 Specific end use(s)

No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with limit values that require monitoring at the workplace:

CAS: 7664-93-9 sulphuric acid	
WEL (Great Britain)	Long-term value: 0.05* mg/m³ *mist: defined as thoracic fraction
IOELV (European Union)	Long-term value: 0.05 mg/m³

Regulatory information

WEL (Great Britain): EH40/2020

IOELV (European Union): (EU) 2019/1831

Additional information:

IOELV = Indicative Occupational Exposure Limit

DNELs

Derived No Effect Level (DNEL)

CAS: 7664-93-9 sulphuric acid		
Inhalative	DNEL	0,1 mg/m³ (Worker / acute / local effects) 0,05 mg/m³ (Worker / acute / systemic effects)

Recommended monitoring procedures:

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

PNECs

Predicted No Effect Concentration (PNEC)

CAS: 7664-93-9 sulphuric acid	
PNEC	8,8 mg/l (Sewage treatment plant) 0,00025 mg/l (Marine water) 0,0025 mg/l (Fresh water)
PNEC	0,002 mg/kg (Marine sediment) 0,002 mg/kg (Fresh water sediment)

Additional information:

The lists that were valid during the compilation were used as basis.

8.2 Exposure controls

Engineering measures:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

Individual protection measures, such as personal protective equipment

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

Eye/face protection

Safety glasses

Hand protection

Protective gloves.

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

Material of gloves

nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

Penetration time of glove material

Value for the permeation: Level = 1 (< 10 min)

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

Other skin protection (body protection):

Protective work clothing.

Breathing equipment:

Use breathing protection against the effects of fumes/dust/aerosol.

Recommended filter device for short term use:

Filter P2

Environmental exposure controls

Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	fluid
Form:	liquid
Colour:	colourless
Odour:	odourless
Odour threshold:	Not applicable
Melting point/Freezing point:	Not determined
Boiling point or initial boiling point and boiling range	Not determined
Flammability	The product is not combustible
Explosive properties:	Product is not explosive

Lower and upper explosion limit	
Lower:	Not applicable
Upper:	Not applicable
Flash point:	Not applicable
Ignition temperature:	Not applicable
Decomposition temperature:	Not determined
pH at 20°C	< 1
Kinematic viscosity	Not determined
Solubility	
Water:	Fully miscible
Partition coefficient n-octanol/water (log value)	Not applicable (mixture)
Vapour pressure:	Not determined
Density and/or relative density	
Density at 20°C:	1.1 g/cm³
Relative density:	Not determined
Relative gas density	Not determined
Particle characteristics	Not applicable (liquid).

9.2 Other information

Information with regard to physical hazard classes

Corrosive to metals	May be corrosive to metals.
Metals that are corroded by the substance or mixture	Information on incompatible materials can be found in Sections 7 and 10.
Metal corrosion rate:	acc. to „Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Fifth revised Edition"
Corrosion rate (steel)	69 mm/a

Other safety characteristics

Oxidising properties:	Oxidising potential

Additional information

Solvent content:	
Organic solvents:	0.0 %
Water:	> 85 %

SECTION 10: Stability and reactivity

10.1 Reactivity

see section 10.3

10.2 Chemical stability

Stable at ambient temperature (room temperature).

10.3 Possibility of hazardous reactions

Reacts with metals forming hydrogen (Danger of explosion in case of large amounts!)

Corrosive action on metals

Heating occurs when water is added

Reacts with acids, alkalis and oxidizing agents

Reacts with reducing agents

Reacts with ammonia (NH3).

10.4 Conditions to avoid

No further relevant information available.

10.5 Incompatible materials:

metals

combustible substances

organic solvents

10.6 Hazardous decomposition products:

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 that are relevant for classification:

CAS: 7664-93-9 sulphuric acid		
Oral	LD50	2140 mg/kg (rat) (IUCLID)
Inhalative	LC50	510 mg/m³/2h (rat) (IUCLID)

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/irritation

Causes serious eye irritation.

Information on components:

Skin irritation testing performed on 10% sulfuric acid showed slight to no irritation effects (GESTIS).

CAS 7664-93-9: chronic: dermatitis

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 (specific target organ toxicity) -single exposure

Based on available data, the classification criteria are not met.

STOT (specific target organ toxicity) -repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Additional toxicological information:

Vapours and aerosols may be irritant to the mucous membranes and upper respiratory tract.

CAS 7664-93-9 sulphuric acid
(source: GESTIS) Main toxic effect: Acute: Irritation up to chemical burns to the mucous membranes and skin, danger of serious damage to the eyes and lungs Chronic: Irritation to the eyes and airways, erosion of the teeth, damage to the skin Further information: Concentrated S. differs considerably from dilute Sulfuric acid with regard to chemical properties and effects. With increased dilution Sulfuric acid acts less aggressively.

11.2 Information on other hazards

Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

CAS: 7664-93-9 sulphuric acid	
EC50	>100 mg/l/48h (Daphnia magna) (OECD 202) (ECHA)
LC50	16–29mg/l/96h(bluegill) (MERCK)

Other information:

Toxic for fish: sulphates > 7 g/l

12.2 Persistence and degradability .

Other information:

Mixture of inorganic compounds.

Methods for the determination of biodegradability are not applicable to inorganic substances.

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

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects

Harmful effect due to pH shift

Forms corrosive mixtures with water even if diluted.

Neutralisation possible in waste water treatment plants.

Avoid transfer into the environment.

Water hazard:

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Hand over to disposers of hazardous waste.

European waste catalogue	
16 05 07	discarded inorganic chemicals consisting of or containing hazardous substances

Uncleaned packagings:

Recommendation:

Disposal must be made according to official regulations.

Recommended cleaning agent:

Water, if necessary with cleaning agent.

SECTION 14: Transport information

14.1 UN number or ID number

ADR, IMDG, IATA UN2796

14.2 UN proper shipping name

ADR	2796 SULPHURIC ACID solution
IMDG, IATA	SULPHURIC ACID

14.3 Transport hazard class(es)

ADR

Class	8 (C1) Corrosive substances.
Label	8

IMDG, IATA

Class	8 Corrosive substances.
Label	8

14.4 Packing group

ADR, IMDG, IATA	II

14.5 Environmental hazards:

Not applicable.

14.6 Special precautions for user

Warning: Corrosive substances.

Kemler Number:	80
EMS Number:	F-A,S-B
Segregation groups	Acids
Stowage Category	B

14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

Transport/Additional information:

ADR

Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
Transport category	2
Tunnel restriction code	E

IMDG

Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

SECTION 15: Regulatory information

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

Regulation (EU) 2019/1148 on the marketing and use of explosives precursors

This product is regulated by Regulation (EU) 2019/1148:

All suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point. Please see https://ec.europa.eu

explosives precursors - ANNEX I

CAS 7664-93-9: c < 15%

CAS: 7664-93-9 sulphuric acid

Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)

None of the ingredients is listed.

Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:

None of the ingredients is listed.

Regulation (EC) No 273/2004 on drug precursors

CAS: 7664-93-9 sulphuric acid

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

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:

None of the ingredients is listed.

REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)

None of the ingredients is listed.

LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)

None of the ingredients is listed.

Substances of very high concern (SVHC) according to REACH, Article 57

This product does not contain any substances of very high concern above the legal concentration limit of ≥ 0.1% (w / w).

Substances of very high concern (SVHC) according to UK REACH

This product does not contain any substances of very high concern above the legal concentration limit of ≥ 0.1% (w / w).

Directive 2012/18/EU (SEVESO III):

Named dangerous substances - ANNEX I

None of the ingredients is listed.

REGULATION (EC) No 1907/2006 ANNEX XVII

Conditions of restriction: 3

Information about limitation of use:

Not required.

15.2 Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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.

Training hints

Provide adequate information, instruction and training for operators.

Relevant phrases

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

Abbreviations and acronyms:

OECD: Organisation for Economic Co-operation and Development STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: hallf maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

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)

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Met. Corr.1: Corrosive to metals – Category 1

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Sources

Data arise from safety data sheets, reference works and literature. IUCLID (International Uniform Chemical Information Database) GESTIS- Stoffdatenbank (Substance Database, Germany)

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