

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



now part of BASF Group

50% Sulphuric Acid

Version: 6.0

Revision Date 09.06.2016

Print Date 13.07.2017

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

1.1 Product identifier

Trade name : 50% Sulphuric Acid

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

Use of the Sub-stance/Mixture : Standard solution for the analysis of process streams.

Recommended restrictions on use : None known.

1.3 Details of the supplier of the safety data sheet

Company : Chemetall Ltd
Denbigh Road
Bletchley Milton Keynes MK1 1PB

Telephone : +44 1908 649333
Telefax : +44 1908 373939

Contact person product safety
Telephone : +49(0)6971652292
E-mail address : msds.de@chemetall.com

1.4 Emergency telephone number

Emergency telephone number : +44 1908 649333

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Corrosive to metals, Category 1
Skin corrosion, Category 1A

H290: May be corrosive to metals.
H314: Causes severe skin burns and eye damage.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

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Hazard pictograms

:



Signal word

: Danger

Hazard statements

: H290
H314

May be corrosive to metals.
Causes severe skin burns and eye damage.

Precautionary statements

: **Prevention:**

P260
P262
P280

Do not breathe vapours, aerosols.
Do not get in eyes, on skin, or on clothing.
Wear protective gloves/ protective clothing/
eye protection/ face protection.

Response:

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/shower.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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 or doctor/ physician.

Disposal:

P501

Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:

- 7664-93-9 Sulphuric acid

2.3 Other hazards

The information required is contained in this Material Safety Data Sheet.

SECTION 3: Composition/information on ingredients

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3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature : aqueous solution

Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
Sulphuric acid	7664-93-9 231-639-5 01-2119458838-20	Skin Corr. 1A; H314 Eye Dam. 1; H318 Note B	>= 50 - < 65

For the full text of the H-Statements mentioned in this Section, see Section 16.

For the full text of the Notas mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : Take off contaminated clothing and shoes immediately.
First-aid crew: Ensure self-protection.
Move out of dangerous area.
- If inhaled : Move to fresh air.
Call a physician immediately.
- In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes.
Call a physician immediately.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Call a physician immediately.
- If swallowed : Rinse mouth with water.
Immediately give large quantities of water to drink.
Do NOT induce vomiting.
Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

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- Symptoms** : Erythema
Pain
Inhalation may provoke the following symptoms:
Lung oedema
Breathing difficulties
- Risks** : Causes severe skin burns and eye damage.
If swallowed, severe burns in the oral cavity and throat as well as danger of perforation of the digestive tract and stomach.
Risk of serious damage to the lungs (by aspiration).
Symptoms may be delayed.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment** : In case of lung irritation, first treatment with dexametason aerosol (spray).
Keep under medical supervision for at least 48 hours.
Immediately give oxygen if victim turns blue (lips, ears, finger-nails).
For specialist advice physicians should contact the Poisons Information Service.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media** : High volume water jet

5.2 Special hazards arising from the substance or mixture

- Specific hazards during fire-fighting** : May form toxic gases on heating or in case of fire.
Sulphur oxides

5.3 Advice for firefighters

- Special protective equipment for firefighters** : In the event of fire, wear self-contained breathing apparatus.
- Further information** : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Ensure adequate ventilation.
Wear personal protective equipment.
Evacuate personnel to safe areas.

6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Ensure adequate ventilation.
Soak up with liquid binder (sand, kieselguhr, acid binder, universal binder).
Sweep up and shovel into suitable containers for disposal.

6.4 Reference to other sections

For further information see Section 8 of the safety data sheet. For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.
Have eye wash bottle or eye rinse ready at the work place.
Avoid contact with skin and eyes.
When diluting, always add the acid to the water, never the other way round.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in a place accessible by authorized persons only.
Store in original container.
Keep container tightly closed in a dry and well-ventilated place.
To maintain product quality, do not store in heat or direct sunlight.

Further information on storage : Avoid contact with metals.

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age conditions

Protect from frost.

Storage temperature

: 0 - 70 °C

7.3 Specific end use(s)

Specific use(s)

: Standard solution for the analysis of process streams.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value	Control parameters	Update	Basis
Sulphuric acid	7664-93-9	TWA	0.05 mg/m3 Mist, thoracic fraction	2011-12-01	GB EH40
Further information	:	2: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			
		TWA	0.05 mg/m3 Mist	2009-12-19	2009/161/EU
Further information	:	Indicative When selecting an appropriate exposure monitoring method, account should be taken of potential limitations and interferences that may arise in the presence of other sulphur compounds. The mist is defined as the thoracic fraction.			

DNEL/DMEL

Sulphuric acid

: End Use: Workers DNEL
Exposure routes: Inhalation
Potential health effects: Long-term local effects
Value: 0.05 mg/m3

End Use: Workers DNEL
Exposure routes: Inhalation
Potential health effects: Acute local effects
Value: 0.1 mg/m3

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PNEC

Sulphuric acid

: Fresh water
Value: 2.5 µg/L

Marine water
Value: 0.25 µg/L

Sewage treatment plant
Value: 8.8 mg/l

Fresh water sediment
Value: 0.002 mg/kg dry weight (d.w.)

Marine sediment
Value: 0.002 mg/kg dry weight (d.w.)

8.2 Exposure controls

Engineering measures

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.
Recommended Filter type:
Type E

Hand protection : Nitrile rubber
Protective gloves complying with EN 374.
The exact break through time can be obtained from the protective glove producer and this has to be observed.
Protective gloves have to be replaced at the first sign of deterioration.

Eye protection : Tightly fitting safety goggles
Eye protection (EN 166)

Skin and body protection : Chemical resistant protective clothing according to DIN EN 13034 (Type 6)

Hygiene measures : Do not breathe vapours, aerosols.
Take off contaminated clothing and shoes immediately.
Avoid contact with the skin and the eyes.
Keep away from food, drink and animal feedingstuffs.

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Wash hands before breaks and immediately after handling the product.

Protective measures : Avoid formation of aerosol.
Handle in accordance with good industrial hygiene and safety practice.
Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : liquid

Colour : colourless

Odour : slight stinging

Flash point : Not applicable

pH : < 2
at
20 °C
(undiluted)

Solidification temperature/range : < 0 °C

Boiling point/boiling range : No data available

Vapour pressure : No data available

Density : 1.36 - 1.42 g/cm³
at 20 °C
Method: DIN 51757

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Water solubility : completely miscible

Flow time : 15 sec.
at 23 °C
4 mm
Method: ISO 2431

9.2 Other information

Corrosion : Corrosive to metals

Explosivity : Gives off hydrogen by reaction with metals.

Directive 1999/13/EC on the
limitation of emissions of vol-
atile organic compounds : Value: 0 %

SECTION 10: Stability and reactivity

10.1 Reactivity

Potential for exothermic hazard

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Gives off hydrogen by reaction with metals.

10.4 Conditions to avoid

Conditions to avoid : Protect from frost.

10.5 Incompatible materials

Materials to avoid : When diluting, always add the acid to the water, never the
other way round.
Incompatible with bases.
Organic materials

10.6 Hazardous decomposition products

Risk of decomposition. : No decomposition if used as directed.

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity : No data available

Acute oral toxicity
Sulphuric acid

: LD50: 2,140 mg/kg
Species: Rat
Method: OECD Test Guideline 401

Acute inhalation toxicity
Sulphuric acid

: LC50: 375 mg/l
Exposure time: 4 h
Species: Rat
Method: OECD Test Guideline 403

Skin corrosion/irritation

Skin irritation : Causes severe burns.

Serious eye damage/eye irritation

Eye irritation : Causes serious eye damage.

Respiratory or skin sensitisation

Sensitisation : No data available

Toxicology Assessment

Acute effects : If swallowed, severe burns in the oral cavity and throat as well as danger of perforation of the digestive tract and stomach., Causes severe skin burns and eye damage.

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SECTION 12: Ecological information

12.1 Toxicity

Ecotoxicology studies for the product are not available.

Toxicity to fish

Sulphuric acid

: LC50: 16 - 28 mg/l

Exposure time: 96 h

Species: *Lepomis macrochirus* (Bluegill sunfish)

Toxicity to daphnia and other aquatic invertebrates

Sulphuric acid

: EC50: > 100 mg/l

Exposure time: 48 h

Species: *Daphnia magna* (Water flea)

Method: OECD Test Guideline 202

Toxicity to algae

Sulphuric acid

: IC50: > 100 mg/l

Exposure time: 72 h

Species: *Desmodesmus subspicatus* (green algae)

Method: OECD Test Guideline 201

12.2 Persistence and degradability

Biodegradability

: No data available

12.3 Bioaccumulative potential

Bioaccumulation

: Bioaccumulation is unlikely.

12.4 Mobility in soil

Mobility

: No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

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Additional ecological information : slightly water endangering
: Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : In accordance with local and national regulations.
Contaminated packaging : Dispose of as unused product.
Waste Code : Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

SECTION 14: Transport information

ADR

UN number : 2796
UN proper shipping name : SULPHURIC ACID
Transport hazard class(es) : 8
Packing group : II
Classification Code : C1
Hazard Identification Number : 80
Limited Quantity (LQ) Inner : 1.00 L
Packaging
Maximum quantity : 30.00 KG
Labels : 8
Tunnel restriction code : (E)
Environmentally hazardous : no

IATA

UN number : 2796
Description of the goods : Sulphuric acid
Class : 8
Packing group : II
Labels : 8

IATA_C

Packing instruction (cargo aircraft) : 855
Packing instruction (LQ) : Y840

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Maximum quantity : 30.00 L
Environmentally hazardous : no

IATA_P

Packing instruction (passenger aircraft) : 851
Packing instruction (LQ) : Y840
Maximum quantity : 1.00 L
Environmentally hazardous : no

IMDG

UN number : 2796
Description of the goods : SULPHURIC ACID
Class : 8
Packing group : II
Labels : 8
EmS Number 1 : F-A
EmS Number 2 : S-B
Limited Quantity (LQ) Inner : 1.00 L
Packaging
Marine pollutant : no

Acids

Acids

RID

UN number : 2796
Description of the goods : SULPHURIC ACID
Transport hazard class(es) : 8
Packing group : II
Classification Code : C1
Hazard Identification Number : 80
Labels : 8
Limited Quantity (LQ) Inner : 1.00 L
Packaging
Maximum quantity : 30.00 KG
Environmentally hazardous : no

SECTION 15: Regulatory information

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

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REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Water contaminating class (Germany) : WGK 1 slightly water endangering
VWVWS A4

Other regulations : The product is classified and labelled in accordance with EC directives or respective national laws.
Regional or national implementations of GHS may not implement all hazard classes and categories.

15.2 Chemical Safety Assessment

For a mixture it is not mandatory to include an exposure scenario in the material safety data sheet.
The necessary safety - related information is stated in the first 16 sections.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

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

Full text of Notas referred to under section 3

Note 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.

Further information

The information provided is based on our current knowledge and experience and apply to the product as delivered. Regarding the product properties, these are not guaranteed. The delivery of this safety datasheet does not free the recipient of the product from his own responsibility to follow the relevant rules and regulations concerning this product.