



Safety Data Sheet

Sulfuric Acid, 0.1N (0.05M)

Section 1: Chemical Product and Company Identification

Product Name: Sulfuric Acid, 0.1N (0.05M)

Catalog Codes: 735

CAS#: -

RTECS: -

Synonym: Sulfuric Acid

Chemical Name: Sulfuric Acid

Chemical Formula: H₂SO₄

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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Sulfuric Acid	-	5-10 %

Toxicological Data on Ingredients: LD50 Oral - Rat - male and female - 2,140 mg/kg.

Section 3: Hazards Identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Corrosive to Metals (Category 1), H290

Skin irritation (Category 2), H315

Eye irritation (Category 2), H319

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

Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word	Warning
Hazard statement(s)	
H290	May be corrosive to metals.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
Precautionary statement(s)	
P234	Keep only in original packaging.
P264	Wash skin thoroughly after handling.
P280	Wear protective gloves/ eye protection/ face protection.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
Supplemental Hazard Statements	none

Reduced Labeling (<= 125 ml)

Pictogram	none
Signal word	Warning
Hazard statement(s)	none
Precautionary statement(s)	none
Supplemental Hazard Statements	none

Other hazards

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.

Section 4: First Aid Measures

Description of first-aid measures

If inhaled

After inhalation: fresh air.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 3) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

Section 5: Firefighting measures**Extinguishing media****Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Sulfur oxides

Not combustible.

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of:

Sulfur oxides

Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 6: Accidental Release Measures**Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for

emergency responders: Protective equipment see section 8.

For personal protection see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralising material (e.g. Chemisorb® H⁺, Merck Art. No. 101595). Dispose of properly. Clean up affected area.

Reference to other sections

For disposal see section 13.

Section 7: Handling and Storage

Precautions for safe handling

Advice on safe handling

Observe label precautions.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 3.

Conditions for safe storage, including any incompatibilities

Storage conditions

No metal or light-weight-metal containers.

Tightly closed.

Recommended storage temperature see product label.

Storage class

Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials

Section 8: Exposure Controls/Personal Protection

Ingredients with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
sulphuric acid	-	-	0.05 mg/m ³	Europe. COMMISSION DIRECTIVE 2009/161/EU 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
	Remarks	Indicative		
		TWA	0.05 mg/m ³	UK. EH40 WEL - Workplace Exposure Limits

Exposure controls

Personal protective equipment

Eye/face protection

Safety glasses

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: > 480 min

Material tested:KCL 741 Dermatril® L

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Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: > 480 min

Material tested:KCL 741 Dermatril® L

Body Protection

acid-resistant protective clothing

Respiratory protection

Recommended Filter type: Filter type P2

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains.

Section 9: Physical and Chemical Properties**Information on basic physical and chemical properties**

a) Appearance	Form: liquid Color: colorless
b) Odor	odorless
c) Odor Threshold	Not applicable
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point and boiling range	No data available
g) Flash point	Not applicable
h) Evaporation rate	No data available
i) Flammability (solid,gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapor pressure	No data available
l) Vapor density	No data available
m) Density	1.06 g/cm ³ at 20 °C

Relative density	No data available
n) Water solubility	at 20 °C soluble
o) Partition coefficient: n-octanol/water	No data available
p) Autoignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
s) Explosive properties	Not classified as explosive.
t) Oxidizing properties	Oxidizing potential
Other safety information	
No data available	

Section 10: Stability and Reactivity Data

Reactivity

Oxidizing agents

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

Possibility of hazardous reactions

Violent reactions possible with:

Water

Alkali metals

alkali compounds

Ammonia

alkalines

Metals

Alkaline earth metals

alkaline earth compounds

metal alloys

Acids

Conditions to avoid

no information available

Incompatible materials

animal/ vegetable tissues, Metals Gives off hydrogen by reaction with metals.

Hazardous decomposition products

In the event of fire: see section 5

Section 11: Toxicological Information

Information on toxicological effects

Mixture

Acute toxicity

Oral: No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

irritant effects, Circulatory collapse

irritating

Circulatory collapse

After inhalation of vapours: irritative symptoms in the respiratory tract. After skin contact: severe irritations.

After eye contact: corneal destruction. After swallowing: damage of the oral, oesophageal, and gastric mucous membranes. Perforation of the oesophagus frequently occurs. Circulatory collapse may occur after 1-2 hours. Other dangerous properties can not be excluded.
Handle in accordance with good industrial hygiene and safety practice.

Components

sulphuric acid

Acute toxicity

LD50 Oral - Rat - male and female – 2.140 mg/kg

Remarks: (ECHA)

Inhalation: Corrosive to respiratory system.

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Extremely corrosive and destructive to tissue.

Remarks: (IUCLID)

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Result: negative

Remarks: (HSDB)

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Section 12: Ecological Information

Toxicity

Mixture

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

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

Harmful effect due to pH shift. Neutralisation possible in waste water treatment plants. Discharge into the environment must be avoided.

Components

sulphuric acid

Toxicity to daphnia

static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h
(OECD Test Guideline 202)

and other aquatic
invertebrates

Toxicity to algae

static test ErC50 - Desmodesmus subspicatus (green algae) - > 100 mg/l - 72 h
(OECD Test Guideline 201)

Section 13: Disposal Considerations

Waste treatment methods

Product

Waste material must be disposed of in accordance with the national and local regulations.

Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Section 14: Transport Information

UN number

ADR/RID: 2796

IMDG: 2796

IATA: 2796

UN proper shipping name

ADR/RID: SULPHURIC ACID

IMDG: SULPHURIC ACID

IATA: Sulphuric acid

Transport hazard class(es)

ADR/RID: 8

IMDG: 8

IATA: 8

Packaging group

ADR/RID: II

IMDG: II

IATA: II

Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

Special precautions for user

No data available

Section 15: Other Regulatory Information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

Section 16: Other Information

References: Not available

Other Special Considerations: Not available

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