

SAFETY DATA SHEET

according to 1907/2006/EC, Article 3

Version no. : 2.0
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Revised on : -

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

1.1 Product identifiers

Product name Sulfuric acid 98% for the determination of nitrogen
Product Number PSR50284
Brand PureSynth research chemicals
CAS No. 7664-93-9

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

Identified uses Reagent for analysis

1.3 Details of the supplier of the safety data sheet

Company PureSynth Research Chemicals GmbH
64683 Einhausen Marie-Curie-StraBe. 3, Germany

1.4 Emergency telephone number

Worldwide Helpline No.: 1800-8908-260

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Corrosive to Metals, (Category 1)	H290: May be corrosive to metals.
Skin corrosion, (Sub-category 1A)	H314: Causes severe skin burns and eye damage.
Serious eye damage, (Category 1)	H318: Causes serious eye damage.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word Danger

Hazard statement(s)

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

Precautionary statement(s)

Prevention:

P234	Keep only in original packaging.
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.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN
P305 + P351 + P338	EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 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.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition / information on ingredients

3.1 Substances

Common names & Synonyms	Mol. formula	CAS number
sulphuric acid	H ₂ SO ₄	101-77-9
Component	Classification	Concentration
sulphuric acid	Met. Corr. 1; Skin Corr. 1A; Eye Dam. 1; H290, H314, H318 Concentration limits: >= 15 %: Skin Corr. 1A, H314; 5 - < 15 %: Skin Irrit. 2, H315; 5 - < 15 %: Eye Irrit. 2, H319; >= 0,3 %: Met. Corr. 1, H290;	<= 100 %

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice	First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.
If inhaled	After inhalation: fresh air. Immediately call in physician.
In case of skin contact	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.
In case of eye contact	After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
If swallowed	After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.
Most important symptoms and effects, both acute and delayed	The most important known symptoms and effects are described in the labelling (see section 2.2) 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 water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	No data available
Special hazards arising from the substance or mixture	Sulur oxides Not combustible. Fire may cause evolution of: Sulphur oxides Ambient fire may liberate hazardous vapours.
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: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. 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. 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	For precautions see section 2.2
Conditions for safe storage, including any incompatibilities	No metal containers. Tightly closed. Recommended storage temperature see product label. Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials.
Specific end use(s)	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls / Personal protection

8.1 Control parameters

Ingredients with workplace control parameters

Derived No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Workers	Inhalation	Acute local effects	0.1 mg/m ³
Workers	Inhalation	Long-term local effects	0.05 mg/m ³

Predicted No Effect Concentration (PNEC)

Compartment	Value
Sea water	0,00025 mg/l
Fresh water	0.0025 mg/l
Sea sediment	0.002 mg/kg
Fresh water sediment	0.002 mg/kg
Onsite sewage treatment plant	8.8 mg/

8.2 Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

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 EN 16523-1 please contact the supplier of CE-approved gloves

Full contact

Material: Viton[®]

Minimum layer thickness: 0.7 mm

Break through time: 480 min

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 EN 16523-1 please contact the supplier of CE-approved gloves

Splash contact

Material: butyl-rubber

Minimum layer thickness: 0.7 mm

Break through time: 120 min

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

Appearance	Form: liquid Colour: colourless
Odour	odourless
pH - Value	0.3 at 49 g/l at 25 °C
Density	1.84 g/cm ³ at 20 °C
Boiling Point	ca.335 °C at 1.013 hPa
Melting Point	-20 °C
Solubility in water	at 20 °C soluble, (caution! development of heat)
Flash point	Not applicable
Vapour pressure	ca.0.0001 hPa at 20 °C
Auto -ignition temperature	No data available
Vapour density	No data available
Flammability (solid, gas)	No data available
Evaporation rate	No data available
Partition coefficient: n- octanol / water	Not applicable for inorganic substances
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: ca.24 mPa.s at 20 °C
Explosive properties	Not classified as explosive
Upper / lower flammability or explosive limits	No data available
Oxidizing properties	Oxidizing potential

Other safety information: No data available

SECTION 10: Stability and reactivity

Reactivity	strong oxidising agent
Chemical stability	The product is chemically stable under standard ambient conditions (room temperature).
Possibility of hazardous reactions	A risk of explosion and/or of toxic gas formation exists with the following substances: Violent reactions possible with: Alkali metals alkali compounds Ammonia Aldehydes acetonitrile Alkaline earth metals alkalines Acids alkaline earth compounds Metals metal alloys

	Oxides of phosphorus
	phosphorus
	hydrides
	halogen-halogen compounds
	oxyhalogenic compounds
	permanganates
	nitrates
	Carbides
	combustible substances
	organic solvent
	acetylidene
	Nitriles
	organic nitro compounds
	anilines
	Peroxides
	picrates
	nitrides
	lithium silicide
	iron (III) compounds
	bromates
	chlorates
	Amines
	perchlorates
	hydrogen peroxide
Condition to avoid	no information available
Incompatible materials	animal/vegetable tissues, Metals Contact with metals liberates hydrogen gas.
Hazardous decomposition products	In the event of fire: see section 5

SECTION 11: Toxicological information

Acute toxicity	LD50 Oral - Rat - male and female - 2140 mg/kg (sulphuric acid) Remarks: (ECHA) Inhalation: No data available Dermal: No data available
Skin corrosion/irritation	Skin - Rabbit (sulphuric acid) Result: Extremely corrosive and destructive to tissue. Remarks: (IUCLID)
Serious eye damage/eye irritation	Remarks: Causes serious eye damage.
Respiratory or skin sensitization	No data available
Germ cell mutagenicity	Test Type: Ames test (sulphuric acid) 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
Aspiration hazard
Aspiration hazard
Additional Information

No data available

No data available

Endocrine disrupting properties

Product:

Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Pulmonary edema. Effects may be delayed. (sulphuric acid)

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. (sulphuric acid)

After inhalation of aerosols: damage to the affected mucous membranes.

After skin contact: severe burns with formation of scabs. After eye

contact: burns, corneal lesions. After swallowing: severe pain (risk of perforation!), nausea, vomiting and diarrhoea. After a latency period of several weeks possibly pyloric stenosis.

(sulphuric acid)

Other dangerous properties can not be excluded. (sulphuric acid)

Handle in accordance with good industrial hygiene and safety practice.

(sulphuric acid)

SECTION 12: Ecological information

Toxicity

Toxicity to fish

No data available

Toxicity to daphnia and other aquatic invertebrates

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

(sulphuric acid)

(OECD Test Guideline 202)

Toxicity to algae

static test ErC50 - Desmodesmus subspicatus (green algae) - > 100 mg/l -

72 h (sulphuric acid)

(OECD Test Guideline 201)

Toxicity to bacteria

No data available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

No data available

Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

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.

Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH

Other adverse effects

Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Biological effects:

Forms corrosive mixtures with water even if diluted.

Harmful effect due to pH shift.

Endangers drinking-water supplies if allowed to enter soil or water.

Discharge into the environment must be avoided.

Biological effects:

Harmful effect due to pH shift.

Caustic even in diluted form.

Does not cause biological oxygen deficit.

Endangers drinking-water supplies if allowed to enter soil and/or waters in large quantities.

Neutralisation possible in waste water treatment plants.

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

Waste treatment methods	No data available
Products	
Contaminated packaging	Dispose of as unused product.

SECTION 14: Transport information

	UN no.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
ADR / RID	1830	SULPHURIC ACID	8	II	NO
IMDG	1830	SULPHURIC ACID	8	II	NO
IATA	1830	Sulphuric acid	8	II	NO

SECTION 15: 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.

Authorisations and/or restrictions on use

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

Other regulations

Take note of Dir 94/33/EC on the protection of young people at work

Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

The information in this SDS is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. The user must be determined suitability of this information for his application.

