

**SAFETY DATA SHEET**

according to Regulation (EC) No 1907/2006 (REACH) as amended

**Sulfuric acid 96%+**

Creation date	25th January 2020	Version	6.0
Revision date	05th May 2025		

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

**1.1. Product identifier**

Substance / mixture	Sulfuric acid 96%+
Chemical name	substance
CAS number	sulphuric acid ... %
Index number	7664-93-9
EC (EINECS) number	016-020-00-8
Registration number	231-639-5
	01-2119458838-20-0003

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

**Substance's intended use**

Chemical production, analytical chemistry, laboratory synthesis, industrial applications.

**Substance uses advised against**

The product should not be used in ways other then those referred in Section 1.

**1.3. Details of the supplier of the safety data sheet**

**Supplier**

Name or trade name	Ing. Petr Švec - PENTA s.r.o.
Address	Radiová 1122/1, Praha 10, 102 00
	Czech Republic
Identification number (CRN)	02096013
VAT Reg No	CZ02096013
Phone	+420 226 060 681
E-mail	info@pentachemicals.eu
Web address	www.pentachemicals.eu

**Email address for a competent person responsible for the safety data sheet**

Name	Ing. Petr Švec - PENTA s.r.o.
E-mail	info@pentachemicals.eu

**1.4. Emergency telephone number**

European emergency number: 112 112

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

**Classification of the substance in accordance with Regulation (EC) No 1272/2008**

The substance is classified as dangerous.

Skin Corr. 1A, H314

Eye Dam. 1, H318

**Most serious adverse effects on human health and the environment**

Causes severe skin burns and eye damage. Causes serious eye damage.

**2.2. Label elements**

**Hazard pictogram**



**Signal word**

Danger

**Dangerous substance**

sulphuric acid ... %

(Index: 016-020-00-8; CAS: 7664-93-9)

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#### Hazard statements

H314 Causes severe skin burns and eye damage.

#### Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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 doctor.

#### 2.3. Other hazards

The substance does not have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended. Does not contain any PMT or vPvM components.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

#### Chemical characterization

The substance specified below.

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
Index: 016-020-00-8 CAS: 7664-93-9 EC: 231-639-5 Registration number: 01-2119458838-20-0003	<b>substance main component</b> sulphuric acid ... %	>96	Skin Corr. 1A, H314 Eye Dam. 1, H318 Specific concentration limit: Skin Corr. 1A, H314: C ≥ 15 % Eye Irrit. 2, H319: 5 % ≤ C < 15 % Skin Irrit. 2, H315: 5 % ≤ C < 15 %	1, 2, 3, 4

#### Notes

- 1 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.
- 2 A substance for which exposure limits are set.
- 3 Explosive precursor
- 4 Drug precursor

Full text of all classifications and hazard statements is given in the section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that airways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

#### If inhaled

Terminate the exposure immediately; move the affected person to fresh air. Take care of your own safety, do not let the affected person walk! Beware of the contaminated clothes. Depending on the situation, call the medical rescue service and ensure medical treatment considering the frequent need of further observation for at least 24 hours.

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**If on skin**

Remove contaminated clothes. Take off any rings, watches, bracelets before or during washing if worn in the contaminated areas of the skin. Rinse contaminated areas with a flow of water, lukewarm at best, for 10-30 minutes; do not use any brush, soap or neutralizers. Depending on the situation, call the medical rescue service and always ensure medical treatment. Rinse cautiously with water for several minutes. Rinse skin with water or shower.

**If in eyes**

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. No neutralization should be performed in any case! Rinsing should be continued for 10-30 minutes from the inner to the outer eye corner to make sure that the other eye is not involved. Depending on the situation, call medical rescue service or ensure medical treatment as promptly as possible. Everyone must be referred for treatment even if affected only a little.

**If swallowed**

RINSE THE MOUTH WITH WATER IMMEDIATELY AND LET THE PERSON DRINK 2-5 dl of cold water to reduce the heating effect of the corrosive substance. Consuming larger amounts of liquid is not advisable as it may induce vomiting and potential inhaling of the corrosive substances in the lungs. The affected person must not be forced to drink, particularly if already feeling pain in the mouth or throat. In this case let the affected person only rinse the mouth with water. DO NOT PROVIDE ACTIVATED CARBON! Depending on the situation, call medical rescue service or ensure medical treatment as promptly as possible.

**4.2. Most important symptoms and effects, both acute and delayed****If inhaled**

Inhaling vapours can cause corrosion of the breathing system.

**If on skin**

Causes severe skin burns.

**If in eyes**

Causes serious eye damage.

**If swallowed**

Corrosion of the digestion system can occur.

**4.3. Indication of any immediate medical attention and special treatment needed**

Symptomatic treatment.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

**Unsuitable extinguishing media**

Water - full jet.

**5.2. Special hazards arising from the substance or mixture**

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

**5.3. Advice for firefighters**

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Use a self-contained breathing apparatus and full-body protective clothing. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

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

Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Do not inhale mist/vapours/spray. Prevent contact with skin and eyes.

**6.2. Environmental precautions**

Prevent contamination of the soil and entering surface or ground water.

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#### 6.3. Methods and material for containment and cleaning up

Spilled product should be covered with suitable (non-flammable) absorbing material (sand, diatomaceous earth, earth and other suitable absorption materials); to be contained in well closed containers and removed as per the Section 13. In the event of leakage of the substantial amount of the product, inform fire brigade and other competent bodies. After removal of the product, wash the contaminated site with plenty of water. Do not use solvents.

#### 6.4. Reference to other sections

See the Section 7, 8 and 13.

## SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Prevent formation of gases and vapours in concentrations exceeding the occupational exposure limits. Do not inhale mist/vapours/spray. Prevent contact with skin and eyes. Wash hands and exposed parts of the body thoroughly after handling. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection.

#### 7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose. Store locked up.

Storage class 8B - Non-combustible corrosive substances

#### 7.3. Specific end use(s)

not available

## SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

European Union	Commission Directive 2009/161/EU	
Substance name (component) Sulphuric acid (mist) (CAS: 7664-93-9)	Type OEL 8 hours	Value 0,05 mg/m <sup>3</sup>

#### DNEL

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Workers / consumers	Route of exposure	Value	Effect
Workers	Inhalation	0.1 mg/m <sup>3</sup>	Acute effects local
Workers	Inhalation	0.05 mg/m <sup>3</sup>	Chronic effects local

#### PNEC

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Route of exposure	Value
Marine water	0.00025 mg/l
Drinking water	0.0025 mg/l
Sea sediments	0.002 mg/kg
Freshwater sediment	0.002 mg/kg

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**8.2. Exposure controls**

Follow the usual measures intended for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

**Eye/face protection**

Protective goggles or face shield (based on the nature of the work performed).

**Skin protection**

Hand protection: Protective gloves resistant to the product (butyl rubber, Viton). When choosing appropriate thickness, material and permeability of the gloves, observe recommendations of their particular manufacturer. Observe other recommendations of the manufacturer. Other protection: Protective work clothing (rubber apron). Other protection: Work boots (boots). Contaminated skin should be washed thoroughly.

**Respiratory protection**

Mask with type E filter against acid vapors. Use insulating breathing apparatus when the exposition limits of the substances are exceeded or at the place with insufficient ventilation.

**Thermal hazard**

Not available.

**Environmental exposure controls**

Observe usual measures for protection of the environment, see Section 6.2.

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

Physical state	liquid
Colour	colourless
Odour	without fragrance
Melting point/freezing point	3 °C
Boiling point or initial boiling point and boiling range	data not available
Flammability	data not available
Lower and upper explosion limit	data not available
Flash point	data not available
Auto-ignition temperature	data not available
Decomposition temperature	data not available
pH	<1 (undiluted)
Kinematic viscosity	data not available
Solubility in water	soluble
Partition coefficient n-octanol/water (log value)	data not available
Vapour pressure	1.33 at 145.8 °C
Density and/or relative density	
Density	1.83 g/cm <sup>3</sup>
Relative vapour density	data not available
Particle characteristics	data not available

**9.2. Other information**

not available

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

The substance is non-flammable.

**10.2. Chemical stability**

The product is stable under normal conditions.

**10.3. Possibility of hazardous reactions**

Unknown.

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**10.4. Conditions to avoid**

The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

**10.5. Incompatible materials**

Protect against strong acids, bases and oxidizing agents.

**10.6. Hazardous decomposition products**

Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide are formed at high temperature and in fire.

**SECTION 11: Toxicological information**

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

No toxicological data is available for the substance. Inhalation of solvent vapors above values exceeding exposure limits for working environment may result in acute inhalation poisoning, depending on the level of concentration and exposure time.

**Acute toxicity**

Based on available data the classification criteria are not met.

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Route of exposure	Parameter	Value	Exposure time	Species	Sex
Oral	LD <sub>50</sub>	2140 mg/kg		Rat (Rattus norvegicus)	
Inhalation	LC <sub>50</sub>	510 mg/kg	2 hours	Rat (Rattus norvegicus)	
Inhalation	TCLo	3 mg/m <sup>3</sup>	24 hours	Human	

<b>sulphuric acid ... %</b>					
Route of exposure	Parameter	Value	Exposure time	Species	Sex
Oral	LD <sub>50</sub>	2 140 mg/kg		Rat (Rattus norvegicus)	

**Skin corrosion/irritation**

Causes severe skin burns and eye damage.

**Serious eye damage/irritation**

Causes severe skin burns and eye damage. Causes serious eye damage.

**Respiratory or skin sensitisation**

No data available for the substance. Based on available data the classification criteria are not met.

**Germ cell mutagenicity**

No data available for the substance. Based on available data the classification criteria are not met.

**Carcinogenicity**

No data available for the substance. Based on available data the classification criteria are not met.

**Reproductive toxicity**

No data available for the substance. Based on available data the classification criteria are not met.

**Toxicity for specific target organ - single exposure**

No data available for the substance. Based on available data the classification criteria are not met.

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**Toxicity for specific target organ - repeated exposure**

No data available for the substance. Based on available data the classification criteria are not met.

**Aspiration hazard**

No data available for the substance. Based on available data the classification criteria are not met.

**11.2. Information on other hazards**

**Endocrine disrupting properties**

Based on available data the classification criteria are not met. Does not contain any components that may cause endocrine disruption for humans.

**Other information**

not available

**SECTION 12: Ecological information**

**12.1. Toxicity**

Based on available data the classification criteria are not met.

**Acute toxicity**

<b>sulphuric acid ... %</b>				
Parameter	Value	Exposure time	Species	Environment
IC <sub>50</sub>	>100 mg/l	72 hours	Algae (Desmodesmus subspicatus)	
EC <sub>50</sub>	>100 mg/l	48 hours	Daphnia (Daphnia magna)	
	42 mg/l	96 hours	Fish (Gambusia affinis)	

**12.2. Persistence and degradability**

No data available for the substance.

**12.3. Bioaccumulative potential**

No data available for the substance.

**12.4. Mobility in soil**

No data available for the substance.

**12.5. Results of PBT and vPvB assessment**

Based on available data the classification criteria are not met. Does not contain any PBT or vPvB components. Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

**12.6. Endocrine disrupting properties**

Based on available data the classification criteria are not met. Does not contain any components that may cause endocrine disruption in the environment.

**12.7. Other adverse effects**

Not available.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

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#### Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

#### SECTION 14: Transport information

##### 14.1. UN number or ID number

UN 1830

##### 14.2. UN proper shipping name

SULPHURIC ACID

##### 14.3. Transport hazard class(es)

8 Corrosive substances

##### 14.4. Packing group

II

##### 14.5. Environmental hazards

not relevant

##### 14.6. Special precautions for user

not available

##### 14.7. Maritime transport in bulk according to IMO instruments

not relevant

#### Additional information

Hazard identification No.

80  
1830

UN number

C1

Classification code

8

Safety signs



Tunnel restriction code

(E)

#### Air transport - ICAO/IATA

Packaging instructions passenger

851

Cargo packaging instructions

855

#### Marine transport - IMDG

EmS (emergency plan)

F-A, S-B

#### SECTION 15: Regulatory information

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

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Product contains restricted explosives precursors: Making available, introduction, possession and use according to Regulation (EU) 2019/1148, Article 5. Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

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**15.2. Chemical safety assessment**

A Chemical Safety Assessment has been carried out.

**More information**

Restricted explosives precursors shall not be made available to, or introduced, possessed or used by members of the general public (according to the Annex I to the Regulation (EU) 2019/1148 as amended). The supplier is obliged to report suspicious transactions, disappearances and thefts to the relevant state authority.

**SECTION 16: Other information****A list of standard risk phrases used in the safety data sheet**

H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

**Guidelines for safe handling used in the safety data sheet**

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
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 doctor.

**Other important information about human health protection**

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

**Key to abbreviations and acronyms used in the safety data sheet**

ADR	Agreement concerning the international carriage of dangerous goods by road
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
EC	Identification code for each substance listed in EINECS
EC <sub>50</sub>	Concentration of a substance when it is affected 50 % of the population
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
EU	European Union
EuPCS	European Product Categorisation System
Eye Dam.	Serious eye damage
Eye Irrit.	Eye irritation
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
IC <sub>50</sub>	Concentration causing 50% blockade
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC <sub>50</sub>	Lethal concentration of a substance in which it can be expected death of 50% of the population
LD <sub>50</sub>	Lethal dose of a substance in which it can be expected death of 50% of the population
log K <sub>ow</sub>	Octanol-water partition coefficient
OEL	Occupational Exposure Limits

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PBT	Persistent, bioaccumulative and toxic
PMT	Persistent, mobile and toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
Skin Corr.	Skin corrosion
Skin Irrit.	Skin irritation
UN number	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very persistent and very bioaccumulative
vPvM	Very persistent and very mobile

**Training guidelines**

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

**Recommended restrictions of use**

not available

**Information about data sources used to compile the Safety Data Sheet**

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended.

REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

**The changes (which information has been added, deleted or modified)**

The version 6.0 replaces the SDS version from Wednesday, 8 November 2023. Changes were made in sections 2, 11, 12, 13 and 16.

**More information**

Classification procedure - calculation method.

**Statement**

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.