

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

- **1.1 Product identifier**
- **Trade name:** sulphuric acid 95 - 97%
- **Article number:** 171058
- **CAS Number:** 7664-93-9
- **EC number:** 231-639-5
- **Index number:** 016-020-00-8
- **Registration number** 01-2119458838-20-XXXX
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemical
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
AppliChem GmbH  
Ottoweg 4  
D-64291 Darmstadt
- **Further information obtainable from:** Dept. Compliance
- **1.4 Emergency telephone number:** +49(0)6151 93570 (Inside normal business hours)

Tel.: +49 (0)6151 93570  
Fax.: +49 (0)6151 935711  
msds@appliChem.com

## SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
Met. Corr.1 H290 May be corrosive to metals.  
Skin Corr. 1A H314 Causes severe skin burns and eye damage.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The substance is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS05

- **Signal word** Danger
- **Hazard statements**  
H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**  
P280 Wear protective gloves/protective clothing/eye protection/face 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.  
P309 IF exposed or if you feel unwell:  
P310 Immediately call a POISON CENTER/doctor.  
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

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- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances**
- **CAS No. Description**  
7664-93-9 sulphuric acid 95 - 97%
- **Identification number(s)** 016-020-00-8
- **EC number:** 231-639-5
- **Index number:** 016-020-00-8

### SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**  
Personal protection for the First Aider.  
Immediately remove any clothing soiled by the product.  
Involve doctor immediately.
- **After inhalation:**  
Supply fresh air or oxygen; call for doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**  
Immediately remove any clothing soiled by the product.  
Immediately rinse with water.  
Clean with water and soap. If possible, also wash with polyethylene glycol 400.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Rinse out mouth.  
Do not induce vomiting; call for medical help immediately.  
make victim drink water (maximum of 2 drinking glasses)
- **4.2 Most important symptoms and effects, both acute and delayed**  
Breathing difficulty  
Coughing  
Nausea  
Gastric or intestinal disorders
- **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:** In adaption to materials stored in the immediate neighbourhood.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**  
Non-combustible.  
In case of fire, the following can be released:  
Sulphur dioxide (SO<sub>2</sub>)  
sulfur oxides (SO<sub>2</sub>, SO<sub>3</sub>)  
)
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Wear fully protective suit.

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- **Additional information**  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

## SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Do not inhale steams/aerosols.  
Wear protective equipment. Keep unprotected persons away.  
Avoid substance contact.  
Ensure adequate ventilation
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (AppliSorb).  
Use neutralising agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
Clean up affected area.
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** When diluting always pour product into water and not vice versa.
- **Information about fire - and explosion protection:** The product is not flammable.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**  
Keep container tightly sealed.  
Open receptacle only under localised extractor facilities.  
Protect from humidity and water.  
Store under lock and key and with access restricted to technical experts or their assistants only.
- **Recommended storage temperature:** +15 - +25 °C
- **Storage class:** 8 B
- **7.3 Specific end use(s)** No further relevant information available.

## SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

**7664-93-9 sulphuric acid 95 - 97%**

WEL Long-term value: 0.05\* mg/m<sup>3</sup>  
\*mist: defined as thoracic fraction

· **DNELs**

Inhalative	Acute - local effects, worker	0.1 mg/m <sup>3</sup>
	Long-term - local effects, worker	0.05 mg/m <sup>3</sup>

· **PNECs**

Aquatic compartment - freshwater	0.0025 mg/L
Aquatic compartment - marine water	0.00025 mg/L

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Aquatic compartment - sediment in freshwater	0.002 mg/kg
Aquatic compartment - sediment in marine water	0.002 mg/kg
Sewage treatment plant	8.8 mg/L

• **Additional information:** The lists valid during the making were used as basis.

• **8.2 Exposure controls**

• **Personal protective equipment:**

• **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.

• **Respiratory protection:** Combination filter B-P2

• **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

• **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

• **Penetration time of glove material**

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

• **For the permanent contact gloves made of the following materials are suitable:**

Recommended thickness of the material:  $\geq 0.7$  mm

Fluorocarbon rubber (Viton)

Value for the permeation: Level  $\geq 480$  min

• **As protection from splashes gloves made of the following materials are suitable:**

Recommended thickness of the material:  $\geq 0.7$  mm

Butyl rubber, BR

Value for the permeation: Level  $\geq 120$  min

• **Eye protection:**



Tightly sealed goggles

• **Body protection:**

Protective work clothing

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

## SECTION 9: Physical and chemical properties

• **9.1 Information on basic physical and chemical properties**

• **General Information**

• **Appearance:**

Form: Liquid

Colour: Colourless

• **Odour:** Odourless

• **Odour threshold:** Not determined.

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· <b>pH-value:</b>	Not determined.
· <b>Change in condition</b> <b>Melting point/freezing point:</b>	Undetermined.
<b>Initial boiling point and boiling range:</b>	330 °C
· <b>Flash point:</b>	Not applicable.
· <b>Flammability (solid, gas):</b>	Not applicable.
· <b>Ignition temperature:</b>	
<b>Decomposition temperature:</b>	Not determined.
· <b>Auto-ignition temperature:</b>	Not determined.
· <b>Explosive properties:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapour pressure at 20 °C:</b>	<0.0001 hPa
· <b>Density at 20 °C:</b>	1.84 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with water:</b>	Fully miscible.
· <b>Partition coefficient: n-octanol/water:</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic at 20 °C:</b>	23 mPas
<b>Kinematic:</b>	Not determined.
· <b>9.2 Other information</b>	No further relevant information available.

## SECTION 10: Stability and reactivity

- **10.1 Reactivity** No dangerous reactions known.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** Heating.
- **10.3 Possibility of hazardous reactions**  
Acts as an oxidising agent on organic materials such as wood, paper and fats.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**  
A risk of explosion and/or of toxic gas formation exists with the following substances:  
water  
bases  
acids  
metals  
combustible substances  
alkali metals  
alkali compounds  
ammonia  
alkaline earth metals  
alkaline earth compounds  
metal alloys  
phosphorus oxides  
phosphorus  
hydrides

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halogen-halogen compounds  
oxyhalogenic compounds  
permanganates  
nitrates  
carbides  
organic solvents  
acetylidene  
nitriles  
nitrides  
organic nitro compounds  
anilines  
peroxides  
picrates  
lithium silicide

- **10.6 Hazardous decomposition products:** In the event of fire: See chapter 5
- **Additional information:**  
hygroscopic  
has a corrosive effect  
Incompatible with:  
metals  
animal tissues  
vegetable tissues  
Hydrogen may form upon contact with metals (danger of explosion!).

## SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **LD/LC50 values relevant for classification:**  
Quantitative data on the toxicological effect of this product are not available.

Components	Type	Value	Species
Inhalative	LC50/2 h	510 mg/l (rat)	

- **Primary irritant effect:**
- **Skin corrosion/irritation**  
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**  
Causes severe skin burns and eye damage.
- **After inhalation:** Strong caustic effect on skin and mucous membranes.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **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-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.

Type of test	Effective concentration	Method	Assessment
EC50	2500 mg/l (Bakterien)		
	1.2 mg/l (fish)		
EC50/96 h	10 mg/l (Aquatic plants)		

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EC50/24 h	29 mg/l (daphnia magna) (bezogen auf die Reinsubstanz)
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- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** Non significant accumulation in organisms
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Other information:** Quantitative data on the ecological effect of this product are not available.
- **Additional ecological information:**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Must not reach sewage water or drainage ditch undiluted or unneutralised.  
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water  
Do not allow to enter waters, waste water, or soil.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
Chemicals must be disposed of in compliance with the respective national regulations.  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:**  
Disposal must be made according to official regulations.  
Packagings that may not be cleansed are to be disposed of in the same manner as the product.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### SECTION 14: Transport information

- |   |                                   |
|---|-----------------------------------|
| · <b>14.1 UN-Number</b><br>· <b>ADR, IMDG, IATA</b>                                 | UN1830                            |
| · <b>14.2 UN proper shipping name</b><br>· <b>ADR, IMDG, IATA</b>                   | SULPHURIC ACID                    |
| · <b>14.3 Transport hazard class(es)</b><br>· <b>ADR</b>                            |                                   |
|  |                                   |
| · <b>Class</b><br>· <b>Label</b>  | 8 (C1) Corrosive substances.<br>8 |
| · <b>IMDG, IATA</b>   |                                   |
|  |                                   |
| · <b>Class</b><br>· <b>Label</b>  | 8 Corrosive substances.<br>8      |

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<ul style="list-style-type: none"> <li>· <b>14.4 Packing group</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>	II
<ul style="list-style-type: none"> <li>· <b>14.5 Environmental hazards:</b></li> <li>· <b>Marine pollutant:</b></li> </ul>	No
<ul style="list-style-type: none"> <li>· <b>14.6 Special precautions for user</b></li> <li>· <b>Danger code (Kemler):</b></li> <li>· <b>EMS Number:</b></li> <li>· <b>Segregation groups</b></li> <li>· <b>Stowage Category</b></li> <li>· <b>Stowage Code</b></li> </ul>	Warning: Corrosive substances. 80 F-A,S-B Acids E SW15 For metal drums, stowage category B.
<ul style="list-style-type: none"> <li>· <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b></li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· <b>Transport/Additional information:</b></li> </ul>	
<ul style="list-style-type: none"> <li>· <b>ADR</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<ul style="list-style-type: none"> <li>· <b>Transport category</b></li> <li>· <b>Tunnel restriction code</b></li> </ul>	2 E
<ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>	UN 1830 SULPHURIC ACID, 8, II

## SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Dept. Compliance
- **Contact:** Mr. Th. Stöckle
- **Abbreviations and acronyms:**  
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
 ICAO: International Civil Aviation Organisation  
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 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  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 DNEL: Derived No-Effect Level (REACH)

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PNEC: Predicted No-Effect Concentration (REACH)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
Met. Corr.1: Corrosive to metals – Category 1  
Skin Corr. 1A: Skin corrosion/irritation – Category 1A

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