

## Material Safety Data Sheets (MSDS)

### Sulphuric Acid 98%

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#### Identification of Product

Chemical Code: CHE-S

Chemical Name: Sulphuric Acid 98%

Chemical Grade: INDUSTRIAL

Chemical Formula:  $\text{H}_2\text{SO}_4$

Chemical Weight: 98,08 g/mol

CAS No: 7664-93-9

Chemical Synonyms: Oil of Vitriol

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#### Hazards Identification

REACH No: 01-2119458838-20-XXXX

Signal Word: Danger

Supplemental Hazard Information:

Additional Hazard Information: This substance contains no components considered to be either persistent, bio-accumulative and toxic (PBT), or very persistent and very bio-accumulative (vPvB) at levels of 0.1% or higher.



#### Hazards statements

H290 - May be corrosive to metals.

H314 - Causes severe skin burns and eye damage.

## Precautionary statements

P260 - Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

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

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 + P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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## Composition of Chemical

Chemical Formula: H<sub>2</sub>SO<sub>4</sub>

EC No 1272/2008: 01-2119458838-20-XXXX

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## First Aid Measures

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance.

If: Inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician

If: Skin Contact: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

If: Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician

If: Swallowed: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Important Symptoms: The most important known symptoms and effects are described in the labeling section

Immediate Medical Attention: No Data Available

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## Firefighting Measures

Extinguishing Media: Use Water spray, Alcohol-resistant foam, Dry chemical or Carbon Dioxide

Hazards Arising: No Data Available

Advice for Firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Info for Firefighting: No Data Available

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## Accidental Release Measures

Personal Precautions: Wear respiratory protection.

Avoid breathing vapours, mist or gas.

Ensure adequate ventilation.

Evacuate personnel to safe areas.

Environmental Precautions: Do not let product enter drains.

Method for Containment: Soak up with inert absorbent material and dispose of as hazardous waste.

Keep in suitable, closed containers for disposal.

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## Handling and Storage

Personal Precautions: Avoid inhalation of vapour or mist.

Environmental Precautions: Store in cool place.

Keep container tightly closed in a dry and well-ventilated place.

Containers which are opened must be carefully resealed and kept upright to prevent leakage

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## Exposure Controls | Personal Protection

Derived No Effect Level (DNEL)

Workers | Application Area | Exposure Routes | Health Effect | Value

Workers - Inhalation - Acute local effects - 0,1 mg/m<sup>3</sup>

Workers - Inhalation - Long-term local effects - 0,05 mg/m<sup>3</sup>

Consumers | Application Area | Exposure Routes | Health Effect | Value

No Data Available

Predicted No Effect Concentration (PNEC)

Marine water - 0,00025 mg/l

Fresh water - 0,0025 mg/l

Marine sediment - 0,002 mg/kg

Fresh water sediment - 0,002 mg/kg

Onsite sewage treatment plant - 8,8 mg/l

Engineering Controls: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Eye/Face Protection: Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin Protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact -

Material: Fluorinated rubber. Minimum layer thickness: 0,7 mm

Break through time: 480 min. Material tested: Vitoject®

Splash contact -

Material: Nitrile rubber. Minimum layer thickness: 0,2 mm

Break through time: 30 min. Material tested: Dermatril® P

Data source: KCL GmbH, D-36124. Test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace

Respiratory Protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator with multi-purpose combination, type OV/AG (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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## Physical and Chemical Properties

Appearance: Clear, colourless to very Slightly-Yellowish, hygroscopic, oily liquid

Odour: No Data Available

Odour Threshold: No Data Available

pH: 1,2 at 5 g/l

Melting Point: 3 °C

Boiling Point: 290 °C (lit).

Flash Point: No Data Available

Evaporation: No Data Available

Flammability: No Data Available

Upper/Lower Flammability or Explosive Limits: No Data Available

Vapour pressure: 1,33 hPa at 145,8 °C

Vapour density: 3,39 - (Air = 1.0)

Relative density: 1,84 g/cm<sup>3</sup> at 25 °C

Water solubility: Miscible (with release of much heat)

Partition Coefficient: No Data Available

Auto-ignition Temperature: No Data Available

Decomposition Temperature: No Data Available

Viscosity: No Data Available

Explosive properties: No Data Available

Oxidizing properties: No Data Available

Other Safety Info: Surface tension: 55,1 mN/m at 20 °C

Relative vapour density: 3,39 - (Air = 1.0)

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## Stability and Reactivity

Reactivity: No Data Available

Chemical Stability: Stable under recommended storage conditions

Possibility of hazardous reactions: No Data Available

Conditions to Avoid: No Data Available

Incompatible Materials: Bases, Halides, Organic materials, Carbides, Fulminates, Nitrates, Picrates, Cyanides, Chlorates, Alkali Halides, Zinc Salts, Permanganates, e.g. Potassium Permanganate, Hydrogen Peroxide, Azides, Perchlorates, Nitromethane, Phosphorous.

Reacts violently with: Cyclopentadiene, Cyclopentanone Oxime, Nitroaryl Amines, Hexalithium Disilicide, Phosphorous(III) Oxide, Powdered Metals.

Hazardous Decomposition Products: Hazardous decomposition products formed under fire conditions - Sulphur Oxides

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## Toxicological Information

Acute Toxicity: LD50 Oral - Rat - 2.140 mg/kg

LC50 Inhalation - Rat - 2 h - 510 mg/m<sup>3</sup>

Skin Corrosion/Irritation: Rabbit

Result: Extremely corrosive and destructive to tissue.

Serious Eye damage | Eye Irritation: Rabbit

Result: Corrosive to eyes

Cell Mutagenicity: No Data Available

Carcinogenicity: The International Agency for Research on Cancer (IARC) has determined that occupational exposure to strong-inorganic-acid mists containing Sulphuric acid is carcinogenic to humans (group 1).

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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

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## Ecological Information

Ecological Toxicity: Toxicity to fish:

LC50 - Gambusia affinis (Mosquito fish) - 42 mg/l - 96 h.

Toxicity to daphnia and other aquatic invertebrates:

EC50 - Daphnia magna (Water flea) - 29 mg/l - 24 h.

Ecological 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 contains no components considered to be either persistent, bio-accumulative and toxic (PBT), or very persistent and very bio-accumulative (vPvB) at levels of 0.1% or higher.

Other Adverse Effect: No Data Available

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## Disposal Considerations

Waste Treatment Methods: Product -

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging - Dispose of as unused product.

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## Transport Information

UN Number: ADR/RID: 1830

IMDG: 1830

IATA: 1830

UN Shipping Hazard: ADR/RID: SULPHURIC ACID

IMDG: SULPHURIC ACID

IATA: Sulphuric Acid

Transport Hazard Class: 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: No Data Available

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## Regulatory Information

Safety, Health and environmental regulations: This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006

Chemical Safety Assessment: A Chemical Safety Assessment has been carried out for this substance.

Additional Info: RTECS: WS5600000

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

Effects may be delayed.

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

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#### Disclaimer

The information stated above is considered to be correct, but does not claim to be inclusive and shall only be used as a guideline. The information provided by this document is confirmed by our continuous updating of knowledge and adheres to the products appropriate safety precautions. It does not represent any guarantee of the product's properties. MCS Chemicals and its Associates shall not be held accountable for any damage's consequent of handling the above product.

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