

**Product name :** Copper(II) sulphate

## 1. Identification of the substance and of the company

### Supplier

Baseclick GmbH  
Bahnhofstr. 9-15  
82327 Tutzing  
Germany

Information in case of emergency: phone: 0049 8158  
903867

Further information from: [www.baseclick.eu](http://www.baseclick.eu)

### Product details

Formal name: Copper(II) sulphate  
Alternative Name: Cupric sulphate

## 2. HAZARDS IDENTIFICATION

### Risk advice to man and the environment

Harmful if swallowed. Irritating to eyes and skin. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Cupric sulphate

Formula:  $\text{CuSO}_4$

Molecular Weight: 159.61 g/mol

CAS-No.: 7758-98-7

EC-No.: 231-847-6

Classification: Xn, N, R22 - R36/38 -  
R50/53

## 4. 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.

### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

## 5. FIRE-FIGHTING MEASURES

### Suitable extinguishing media

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

### Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

### Further information

The product itself does not burn.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

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## Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### Methods for cleaning up

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

## 7. HANDLING AND STORAGE

### Handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

### Storage

Store in cool place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

Handle with gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Eye protection

Safety glasses

#### Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

#### Hygiene measures

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

aqueous solution

### Safety data

pH no data available

Boiling point no data available

Flash point not applicable

Ignition temperature no data available

Lower explosion limit no data available

Upper explosion limit no data available

Vapour pressure 9,7 hPa at 25 °C

Density 3,603 g/mL at 25 °C

Water solubility no data available

## 10. STABILITY AND REACTIVITY

### Storage stability

Stable under recommended storage conditions.

### Materials to avoid

Powdered metals, hydroxylamine, Magnesium, Strong reducing agents

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Copper oxides, Sulphur oxides

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

LD50 Oral - rat - 300 mg/kg

LD50 Intraperitoneal - rat - 20 mg/kg

LD50 Subcutaneous - rat - 43 mg/kg

LD50 Intravenous - rat - 48.9 mg/kg

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#### **Irritation and corrosion**

no data available

#### **Sensitisation**

Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

#### **Chronic exposure**

Carcinogenicity - Chicken - Parenteral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Endocrine: Tumors.

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.

Genotoxicity in vitro - rat – Liver DNA damage

Genotoxicity in vivo - mouse - Intraperitoneal

DNA damage

Developmental Toxicity - mouse - Intravenous

Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific developmental

Abnormalities: Central nervous system. Specific

Developmental Abnormalities: Cardiovascular (circulatory) system.

Reproductive toxicity - mouse - Intravenous

Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

#### **Signs and Symptoms of Exposure**

Symptoms of systemic copper poisoning may include: capillary damage, headache, cold sweat, weak pulse, and kidney and liver damage, central nervous system excitation followed by depression, jaundice, convulsions, paralysis, and coma. Death may occur from shock or renal failure.

Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defects, and copper deposition in the cornea as exemplified by humans with Wilson's disease. It has also been reported that copper poisoning has led to hemolytic anemia and accelerates arteriosclerosis. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

#### **Potential Health Effects**

**Inhalation** May be harmful if inhaled. May cause respiratory tract irritation.

**Skin** May be harmful if absorbed through skin. Causes skin irritation.

**Eyes** Causes eye irritation.

**Ingestion** Harmful if swallowed.

**Target Organs** Liver, Kidney, Blood,

#### **Additional Information**

RTECS: GL8800000

#### **12. ECOLOGICAL INFORMATION**

##### **Elimination information (persistence and degradability)**

no data available

##### **Ecotoxicity effects**

Toxicity to fish mortality LC50 - other fish - 1,0 - 2,5 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates.

Immobilization EC50 - Daphnia magna (Water flea) - 0,024 mg/l - 48 h

##### **Further information on ecology**

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### **13. DISPOSAL CONSIDERATIONS**

##### **Product**

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

##### **Contaminated packaging**

Dispose of as unused product.

#### **14. TRANSPORT INFORMATION**

##### **ADR/RID**

UN-Number: 3288 Class: 6.1 Packing group: III

Proper shipping name: TOXIC SOLID, INORGANIC, N.O.S. (Copper sulphate)

##### **IMDG**

UN-Number: 3288 Class: 6.1 Packing group: III EMS-No: F-A, S-A

Proper shipping name: TOXIC SOLID, INORGANIC, N.O.S. (Copper sulphate)

Marine pollutant: Severe marine pollutant

##### **IATA**

UN-Number: 3288 Class: 6.1 Packing group: III

Proper shipping name: Toxic solid, inorganic n.o.s. (Copper sulphate)

#### **15. REGULATORY INFORMATION**

##### **Labelling according to EC Directives**

EC Label

Hazard symbols

Xn Harmful

N Dangerous for the environment

R-phrases)

R22 Harmful if swallowed.

R36/38 Irritating to eyes and skin.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases)

S22 Do not breathe dust.

S60 This material and its container must be disposed of as hazardous waste.

S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.

#### **16. OTHER INFORMATION**

##### **Further information**

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