

# Safety Data Sheet

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

Product No: BCMI-004

Trade name: Kupfer(II)sulfat sulphate

6.0

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Revision date: 31.10.2019

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

### 1.1. Product identifiers

Product Name: Copper(II) sulphate

Formal Name: not available

Product Number: BCMI-004

CAS-Nr.: 7758-98-7

Index No.: not available

EC No: 231-847-6

REACH No: 01-2119520566-40

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

#### Identified uses:

Laboratory chemical, for research and development only

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

baseclick GmbH

Floriansbogen 2-4

82061 Neuried

Germany

Telephone: +49 89 9699 3401

Fax: +49 9699 4696

E-mail: [support@baseclick.eu](mailto:support@baseclick.eu)

Lieferant / Supplier:  
Carl Roth GmbH + Co KG  
Schoemperlenstr. 3-5  
76185 Karlsruhe, Germany  
+49 721 5606 0  
[sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

### 1.4. Emergency telephone number

+49 89 9699 3401 (Working days Germany 09:00 AM – 05:00 PM CET)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 [CLP]

Classification according to Regulation (EC) No 1272/2008

Acute toxicity

Oral (Category 4), H302 Harmful if swallowed

Skin irritation (Category 2), H315 Causes skin irritation.

Eye irritation (Category 2), H319 Causes serious eye irritation.

Acute aquatic toxicity (Category 1), H400 Very toxic to aquatic life.

Chronic aquatic toxicity (Category 1), H410 Very toxic to aquatic life with long lasting effects

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## 2.2. Label elements

### Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]

Labelling according to Regulation (EC) No 1272/ 2008(CLP):

Hazard symbols:



Signal word: Warning

Hazard statements:

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements:

P273 Avoid release to the environment.

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

P501 Dispose of contents/ container to an approved waste disposal plant.

## 2.3. Other hazards

No data available

## SECTION 3: Composition/information on ingredients

### 3.1 Substance(s)

Synonyms: Cupric sulphate

Formula:  $\text{CuSO}_4$

Molecular Weight: 159.60 g/mol

Appearance: light green to grey powder

Purity: > 98% (iodometric)

CAS-No.: 7758-98-7

EC-No.: 231-847-6

Shelf life: 12 months

### 3.2 Mixtures

not relevant

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General notes:

Avoid all direct contact.

In case of contamination always contact physician.

If inhaled:

Move person into fresh air. If not breathing give artificial respiration.

In case of skin contact:

Wash off with soap and plenty of water.

In case of eye contact:

Flush thoroughly with water.

If swallowed:

Contact physician.

Never induce vomiting or give liquids to someone who is unconscious or cannot swallow.

Rinse mouth with water



### 4.2 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

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

### 5.2 Special hazards arising from the substance or mixture

Hazardous combustion products:

Sulphur oxides, Copper oxides

### 5.3 Advice for fire-fighters

Use material suitable and appropriate to surrounding fire conditions.

Wear self contained breathing apparatus for fire fighting if necessary.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

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

### 6.2 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.

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

Take up under dust avoidance. Keep in suitable, closed containers for disposal.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Information for safe handling: Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. Avoid dust formation.

Information about fire: Not available

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

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Air sensitive, hygroscopic.

Further information about storage conditions: RT, dry, inert gas

Storage class (TRGS 510): 13 Non Combustible Solids

### 7.3 Specific end use(s)

No data available.

## SECTION 8: Exposure controls/personal protection Handling and storage

### 8.1 Control parameters

National limit values:

Germany: TWA: 0.01 mg/m<sup>3</sup> (8 hours), MAK Climax: 0.02 mg/m<sup>3</sup>

Finnland: TWA: 0.02 mg/m<sup>3</sup> 8 hours

Austria: MAK-KZW: 4 mg/m<sup>3</sup> 15 minutes, MAK-KZW: 0.4 mg/m<sup>3</sup> 15 minutes, MAK-TMW: 1 mg/m<sup>3</sup> 8 hours, MAK-TMW: 0.1 mg/m<sup>3</sup> 8 hours

Switzerland: STEL: 0.2 mg/m<sup>3</sup> 15 minutes, TWA: 0.1 mg/m<sup>3</sup> 8 hours

Russia: TWA: 0.5 mg/m<sup>3</sup> 1258, STEL: 1.5 mg/m<sup>3</sup> 1258

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### 8.2 Exposure controls



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.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state: powder

Colour: light green to grey

Odour: None

Odour threshold: No data available

pH (value): 3.5-4.5

Melting point/freezing point: Melting point: 200 °C / 392 °F

Initial boiling point and boiling range: No data available

Flash point: No data available

Evaporation rate: No data available

Flammability (solid, gas): No data available

lower explosion limit (LEL): No data available

upper explosion limit (UEL): No data available

Explosion limits of dust clouds: No data available

Vapour pressure: 7.3 mm Hg at 25 °C

Vapour density: No data available

Relative density: 3.603 g/mL at 25 °C

Water solubility (20 °C): 203 g/L

Partition coefficient: n-octanol/water: No data available

Auto-ignition temperature: Not data available

Decomposition temperature: No data available

Viscosity, flow time (23 °C): No data available

Viscosity, dynamic (mPas / 20 °C): No data available

Explosive properties: No data available

Oxidizing properties: No data available

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### 9.2 Other information:

Specific gravity / density 3.6

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

No data available

### 10.5 Incompatible materials

Powdered metals, hydroxylamine, Magnesium, Strong reducing agents

### 10.6 Hazardous decomposition products

Dangerous decomposition: Copper oxides, Sulphur oxides

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

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

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

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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 lead 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

## SECTION 12: Ecological information

### 12.1 Toxicity

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

### 12.2 Process of degradability

No data available

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

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### 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB

### 12.6 Other adverse effects

Further information on ecology: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product:

Consult the appropriate local waste disposal expert about waste disposal.

Contaminated packaging:

see Product

## SECTION 14: Transport information

### 14.1 UN number

ADR/RID

UN-Number: 3288

IMDG

UN-Number: 3288

IATA

UN-Number: 3288

### 14.2 UN Proper shipping name

ADR/RID

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

IMDG

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

IATA

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

### 14.3 Transport hazard class(es)

ADR/RID

Class: 6.1

IMDG

Class: 6.1

IATA

Class: 6.1

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### 14.4 Packing group

ADR/RID

Packing group: III

IMDG

Packing group: III

IATA

Packing group: III

### 14.5 Environmental hazards

Marine pollutant: Severe marine pollutant

### 14.6 Special precautions for user

No data available

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

## SECTION 15: Regulatory information

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

Labelling according to EC Directives

EC Label

Hazard symbols

GHS07, GHS09

H-phrase(s)

H 302 Harmful if swallowed.

H 315+319 Irritating to eyes and skin.

H 400+413 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

P-phrase(s)

P 260 Do not breathe dust.

P 501 This material and its container must be disposed of as hazardous waste.

P 273+201 Avoid release to the environment. Refer to special instructions/ Safety data sheets.

National regulatories:

Germany: water hazard class: WGK 2

### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

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### SECTION 16: Other information

#### 16.1 Further information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. It does not represent any guarantee of the accuracy, completeness or properties of the product. This material is intended for use by persons with pertinent technical skills and at their discretion and risk. It is the responsibility of the user to determine the product's suitability for its intended use, the product's safe use, and the product's proper disposal. Disposal of hazardous material may be subject to local laws or regulations. Baseclick GmbH shall not be held liable for any damage resulting from handling or from contact with the above product. Not for drug use! For R&D only!