

# MATERIAL SAFETY DATA SHEET

TEOCOM OOD

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69 St. Kliment Ohridsky Blvd., Sofia

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## **COPPER (II) SULPHATE PENTHAHYDRATE**

### **1. Identification of the substance/mixture and of the company/undertaking**

#### 1.1. Product name

#### **COPPER (II) SULPHATE PENTHAHYDRATE**

*REACH Pre-Registration Number:* 05-2115526251-59-0000

#### 1.2. Use of the substance/mixture

Reagent for analysis; chemical production; mineral dyes manufacturing; wood impregnation; pest control; leather industry; medicine; galvanisation: etc.

#### 1.3. Manufacturing/importing/supplying company

Made in Bulgaria.

Supplied to the market by TEOCOM OOD.

69 St. Kliment Ohridsky Blvd., Sofia .

#### 1.4. Emergency telephones:

02 / 962-42-27 ; 02 / 962-42-37

### **2. Hazard Identification**

Harmful if swallowed. Causes skin and eye irritation. Very toxic to aquatic life with long lasting effects.

**3. Composition/Information on Ingredients****3.1. General characterization of ingredients/components and their percentage**

	Name EC No. CAS No. EC Index No.	%	Classification	Hazard Symbol R-phrases S-phrases
1.	<b>Copper (II) Sulphate Pentahydrate (CuSO<sub>4</sub>*5H<sub>2</sub>O) 231-847-6 7758-99-8 029-004-00-0</b>	<b>&gt; 98%</b>	<b>Xn; R22 Xi; R36/38 N; R50</b>	<b>Xn; N R: 22-36/38-50/53 S: (2-)22-60-61</b>

*See Section 15 for full text of R- and S-phrases.*

**4. First Aid Measures****4.1. Inhalation**

If inhaled, remove to fresh air.

**4.2. Skin contact**

Remove contaminated clothing/shoes and wash affected skin areas with plenty of water and soap.

**4.3. Eye contact**

In case of contact, immediately flush eyes with plenty of water for at least 10 minutes keeping eyelids open. Seek immediate medical attention (ophthalmologist).

**4.4. Ingestion**

Ingestion may cause stomach ache, nausea, vomiting, diarrhea, blood pressure to drop, tachycardia, and unconsciousness. Immediately make victim drink plenty of water (several litres). Do not induce vomiting. Seek immediate medical attention.

**5. Fire Fighting Measures****5.1. Suitable extinguishing media**

Use extinguishing media that are appropriate to local circumstances and surrounding environment. Use of Class A fire extinguishers is recommended.

### 5.2. Special hazards related to exposure to the substance/mixture and its combustion products and gases

Non-flammable. Ambient fire may evolve hazardous fumes and gases. Fire may cause evolution of sulphur oxides (SO, SO<sub>x</sub>).

### 5.3. Special protective equipment for fire-fighters

Fire-fighting, which may cause exposure to heat, smoke and secondary products of combustion, requires wearing self-contained breathing apparatus and a full fire suit. Use a B-300 air-purifying gas mask respirator or a Saturn or Draeger full face gas mask.

### 5.4. Further information

Do not discharge fire extinguishing water into surface waters or groundwater. Suppress gases/vapours/mists with a water spray jet.

## **6. Accidental Release Measures**

### 6.1. Personal precautions

Avoid generation and inhalation of dust. Avoid direct contact with the substance. Ensure adequate ventilation of enclosed areas.

### 6.2. Environmental precautions

Do not discharge into drains.

### 6.3. Средства за почистване

Take up dry avoiding generation of dust. Clean up affected area well.

## **7. Handling and Storage**

### 7.1. Handling

Avoid generation and inhalation of dust.

## 7.2. Storage

Store tightly closed in dry premises. Without specific limitations to storage temperature.

## 8. Exposure Controls and Personal Protection

### 8.1. Exposure limits

Maximum allowable concentration of copper compounds (PM in air): 1 mg/m<sup>3</sup>

### 8.2. Exposure controls

#### 8.2.1. Workplace exposure control

Ensure adequate natural and/or pressure/exhaust ventilation. Ensure appropriate PPE.

##### 8.2.1.1. Respiratory protection

Required when dust is generated. Recommended filter type P2 (according to DIN 3181) for solid and liquid particles of harmful substances.

##### 8.2.1.2. Hand protection

Full contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Breakthrough time:	> 480 min

Splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Breakthrough time:	> 480 min

The protective gloves to be used must comply with the specifications under Directive 89/686/EEC and associated standard EN374.

##### 8.2.1.3. Eye protection

Use safety glasses.

##### 8.2.1.4. Skin and body protection

Immediately change protective clothing, wash hands and face after .working with the substance.

**9. Physical and Chemical Properties****9.1. General**

Solid form, odourless, blue colour.

**9.2. Important HSE information**

Molecular weight:	249.68 g/mol
pH (aqueous solution, 50 g/L):	3.5 – 4.5 (20°C)
Melting point:	not applicable
Boiling point:	not applicable
Ignition point:	not applicable
Flash point:	does not flash
Explosive limits:	
lower	not applicable
upper	not applicable
Density (20°C):	2.29 g/cm <sup>3</sup> at 20°C
Water solubility:	317 g/L
Thermal decomposition:	88 – 245°C (elimination of water of crystallisation) 340 – 650°C

**10. Stability and Reactivity****10.1. Conditions to avoid**

Heating (decomposition).

**10.2. Materials to avoid**

Possible violent reactions when contacting strong oxidising agents, hydroxylamine and magnesium in powder form.

**10.3. Hazardous decomposition products**

In the event of fire, see Section 5.

**10.4. Additional information**

Elimination of water of crystallization occurs when heated.

**11. Toxicological Information**

Acute Toxicity:	LD <sub>50</sub> (route: dermal, rat): > 2,000 mg/kg (RTECS) LD <sub>50</sub> (route: oral, rat): 960 mg/kg (HSDB) LDLo (route: oral, human): 1,088 mg/kg (RTECS)
Genotoxicity in vivo:	Mutagenicity: micronucleus. Result: negative
Further information:	
Inhalation:	Causes irritation of mucous membranes, coughing, shortness of breath.
Skin contact:	Causes skin irritation.
Eye contact:	Causes eye irritation.
Ingestion:	Causes stomach pain, vomiting, diarrhea, drop in blood pressure, tachycardia, collapse. After a latency period: death

Handle with care in accordance with good industrial hygiene and safety practice.

**12. Ecological Information****12.1. Ecotoxicity**

Very toxic to aquatic life with long lasting effects. Fungicide.

Onchorhynchus mykiss LC<sub>50</sub>: 0,03 mg/l /96 h (ECOTOX database)

Daphnia magna EC<sub>50</sub>: 0.2 mg/l /48 часа (ECOTOX database)

**12.2. Mobility**

No data available.

**12.3. Stability and degradability**

Slow self-degradation. Not readily degradable.

**12.4. Bioaccumulation potential**

No data available.

Do not release to surface waters, wastewaters or soils!

**13. Disposal Considerations**

- Product:** Treat substance as hazardous waste if not possible to be reclaimed for subsequent re-use/treatment. Waste must be disposed of in accordance with the respective area-specific regulations pertaining to chemical waste handling and disposal. Code 06.03.03 - solid salts containing sulphates, sulphites or sulphides. There are no uniform EU Regulations for the disposal of chemicals or residues. Chemical residues are generally classified as special waste. Their disposal is regulated in the EU member states through general laws and regulations. We recommend that you contact either the authorities in charge or licensed waste disposal companies that will advise you on how to dispose of special waste.
- Packaging:** Handle contaminated packaging in the same way as the substance itself. Dispose of in compliance with applicable local chemicals disposal regulations.

**14. Transport Information**

Road transport: ADR/RID

UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (COPPER(II) SULPHATE), Hazard class: 9, Packing group: III; Classification code: M7

River transport: ADN, ADNR: not tested yet

Sea transport: IMDG-Code

UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (COPPER(II) SULPHATE), Hazard class: 9, Packing group: III; Classification code: M7; Marine pollutant: PP; Segregation group: 7

Ems        F-A    S-F

Air Transport: CAO/PAX

UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (COPPER(II) SULPHATE), Hazard class: 9, Packing group: III; Classification code: M7

**15. Regulatory Information**

This MSDS is prepared in accordance with the requirements under:

- the Chemical Substance/Mixture Hazards Protection Act (the Chemicals Act) (SG issue 10/04.02.2000);
- the Regulation on the Rules and Procedures for Classification, Packaging and Labelling of Chemical Substances/Mixtures (SG issue 5/17.01.2003).

Labelling according to EC directives:

Hazard symbols:

Xn – harmful;

N – Dangerous for the environment.



Standard statements relating to the nature of special risks attributed to dangerous substances and preparations (R-phrases):

R: 22-36/38-50/53      Harmful if swallowed. Irritating to eyes and skin. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Standards statements relating to safety advice concerning dangerous substances and preparations (S-phrases):

S (1/2-)22-60-61      Keep locked up and out of the reach of children. Do not breathe dust. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheet.

**16. Other Information**

Revision 02 (supersedes Revision 01 dated 31.01.2008)

Reasons for revision:

1. Inclusion of the REACH pre-registration number in Section 1;
2. Reversing the order of Sections 2 and 3;
3. Adding information to Sub-Section 1.2.

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This document is intended to provide reference information to suitably trained personnel using the substance about how to work with the substance correctly and safely. Users should use their own judgment to determine the suitability of the information for their particular purposes.

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