

# Material Safety Data Sheet / Safety Data sheet

## Copper (II) Sulphate Pentahydrate

### Section 1: Chemical Product Identifier and Synonyms

Product Name: Copper (II) Sulphate Pentahydrate

UN Number: 3077

CAS Number: 7758-99-8

Synonym: blue copper / blue copperras / blue stone / blue viking / blue vitriol / chalcantite / chalcantite, natural / copper sulfate, pentahydrate / copper sulphate, pentahydrate / copper vitriol / copper(2+) sulfate, pentahydrate / couperose bleue / CSP (=copper(II)sulfate, pentahydrate) / cupric sulfate, pentahydrate / Environmentally hazardous substance, solid, n.o.s. / phytobordeaux (=copper(II)sulfate, pentahydrate) / phyton-27 (=copper(II)sulfate, pentahydrate) / roman vitriol (=copper(II)sulfate, pentahydrate) / sulfacop / sulfuric acid, copper(2+) salt (1:1), pentahydrate / sulfuric acid, copper(II)salt, pentahydrate / triangle(=copper(II)sulfate, pentahydrate) / vencedor

Chemical Formula:  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$

### Section 2: Composition and Information on Ingredients

Composition

Name	CAS Number:	% By Weight
Copper (II) Sulphate Pentahydrate	7758-99-8	>100

**Toxicology Data On Ingredients:** Copper (II) Sulphate Pentahydrate LD50: Not Available. LC50: Not Available

### Section 3: Hazards Identification

#### Potential Acute Health Effects:

Slightly hazardous in case of eye contact (irritant), of ingestion, of inhalation.

#### Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. Repeated or prolonged exposure is not known to aggravate medical condition.

## Section 4: First Aid Measures

### **Eye Contact:**

Rinse immediately with plenty of water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

### **Skin Contact:**

Wash immediately with lots of water. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

### **Inhalation:**

Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service. Assure fresh air breathing. Allow the victim to rest.

### **Ingestion:**

Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Call Poison Information Centre ([www.big.be/antigif.htm](http://www.big.be/antigif.htm)). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Immediately call a POISON CENTER or doctor/physician.

## Section 5: Fire and Explosion Data

**Flammability of the Product:** Not available.

**Auto-Ignition Temperature:** Not available.

**Flash Points:** Not applicable.

**Flammable Limits:** Not applicable.

**Products of Combustion:** Not available.

**Fire Hazards in Presence of Various Substances:** Not applicable.

**Explosion Hazards in Presence of Various Substances:** Not available.

**Risks of explosion of the product in presence of mechanical impact:** Not available.

**Risks of explosion of the product in presence of static discharge:** Not available.

**Fire Fighting Media and Instructions:** Not applicable.

**Special Remarks on Fire Hazards:** Not available.

**Special Remarks on Explosion Hazards:** Not available.

## Section 6: Accidental Release Measures

### **Small Spill:**

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

**Large Spill:**

Prevent dispersion by covering with dry sand/earth. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling. On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

**Section 7: Handling and Storage****Precautions:**

Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Avoid raising dust. Keep away from naked flames/heat. Observe strict hygiene. Keep container tightly closed. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour.

**Storage:**

Keep only in the original container in a cool, well ventilated place away from: incompatible materials. Keep container closed when not in use.

**Section 8: Exposure Controls / Personal Protection****Engineering Controls:**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection:**

Safety glasses. Gloves. Protective clothing. Dust production: dust mask with filter type P3.

**Personal Protection in Case of a Large Spill:**

Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:**

Consult local authorities for acceptable exposure limits.

**Section 9: Physical and Chemical Properties**

**Physical state and appearance:** Solid. (Powdered solid.)

**Odour:** Odourless.

**Taste:** Not available.

**Molecular Weight:** 249.68 g/mole

**Colour:** Blue

**pH (1% soln/water):** 3.2%

**Boiling Point:** Not applicable.

**Melting Point:** Not available.

**Critical Temperature:** Not available.

**Specific Gravity:** Not available. (Water = 1)

**Vapour Pressure:** Not available.

**Vapour Density:** Not available.

**Volatility:** Not available.

**Odour Threshold:** Not available.

**Water/Oil Dist. Coeff.:** Not available.

**Ionicity (in Water):** Not available.

**Dispersion Properties:** Not available.

**Solubility:** Soluble in water. Soluble in methanol. Soluble in glycerol. Water: 23 g/100ml  
Ethanol: 16 g/100ml (18 °C)

## Section 10: Stability and Reactivity Data

**Stability:** The product is stable under normal conditions.

**Instability Temperature:** Not available.

**Conditions of Instability:**

Direct sunlight. Extremely high or low temperatures.

Reacts on exposure to water (moisture) with (some) metals. On burning: release of toxic and corrosive gases/vapours (sulphur oxides) and formation of metallic fumes. Reacts exothermically with (some) compounds: (increased) risk of fire. Reacts violently with (strong) reducers.

**Incompatibility with various substances:** Strong acids. Strong bases.

**Corrosivity:** Not available.

**Special Remarks on Reactivity:** Not available.

**Special Remarks on Corrosivity:** Not available.

**Polymerization:** Not available.

## Section 11: Toxicological Information

**Routes of Entry:** Eye contact. Inhalation. Ingestion.

**Toxicity to Animals:** Acute oral toxicity (LD50): 300 mg/kg [Rat]. LC50: Not available.

**Chronic Effects on Humans:** Not available.

**Other Toxic Effects on Humans:** Slightly hazardous in case of ingestion, of inhalation

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** Not available.

**Special Remarks on other Toxic Effects on Humans:** Not available.

## Section 12: Ecological Information

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:** Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The products of degradation are as toxic as the original product.

**Special Remarks on the Products of Biodegradation:** Not available.

## Section 13: Disposal Information

**Waste Disposal:** Dispose of in accordance with local regulations

## Section 14: Transport Information

**DOT Classification:** Not regulated.

**Identification:** Not available.

**Special Provisions for Transport:** Not available.

## Section 15: Regulatory Information

**Regulations:** Labelling according to Regulation (EC) No 1272/2008.

## Section 16: Other Information

The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials. The author will not be held liable for any damage or injury caused by this product and does not obviate the requirement for end users to carry out their own workplace and specific use risk assessment.

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