



# Material Safety Data Sheet

# DS7758998

## 1. Identification

*Identification of the product*

Catalogue No: **CO120; CO125; CO130; CO135**  
Product name: **Copper(II) sulphate 5-hydrate (cupric sulphate)**  
Synonyms: Blue Vitriol

*Manufacturer/supplier identification*

Company: Scientific & Chemical Supplies Limited  
Carlton House, Livingstone Road  
Bilston. West Midlands WV14 0QZ

Emergency telephone no.: +44 (0) 1902 402402 Fax +44 (0) 1902 402343  
Emergency telephone no(24hr): +44 (0) 7919 258 784

## 2. Composition/information on ingredients

*Chemical classification*

Inorganic salt

CAS number: 7758-99-8 EC-No.: 231-847-6

## 3. Hazards identification

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

## 4. First aid measures

- Eye contact: Irrigate thoroughly with water for at least 10 minutes. If discomfort persists, obtain medical attention.
- Inhalation: Remove from exposure, rest and keep warm. In severe case obtain medical attention.
- Skin contact: Wash off thoroughly with soap and water. Remove contaminated clothing and wash before re use. In severe cases, obtain medical attention.
- Ingestion: Wash out mouth thoroughly with water and give plenty of water to drink. Obtain medical attention.

## 5. Fire-fighting measures

*Special risks:*

Not combustible. May evolve toxic fumes in fire., (sulphur oxides)

*Suitable extinguishing media:*

To suit environment.

Do not stay in dangerous zone without respiratory protective equipment. Prevent fire fighting water entering watercourses or ground-water.

## 6. Accidental release measures

Wear appropriate protective clothing. Do not allow to enter sewerage system.

Carefully take up dry. Forward for disposal. Clean up affected area.

## 7. Handling and storage

### *Handling:*

Avoid generation of dusts. Do not breathe dust. Change contaminated clothing. Wash hands after working with substance. Do not empty into drains.

Unsuitable working materials: steel (+ water)

### *Storage:*

Store at room temperature (15 to 25°C recommended). Keep well closed and protected from direct sunlight and moisture.

## 8. Exposure controls/personal protection

As appropriate to the situation and the quantity handled. Engineering methods to control or prevent exposure are preferred. Methods could include process enclosure or mechanical ventilation.

- Respirator: Dust respirator
- Ventilation: Extraction hood
- Gloves: Rubber or plastic
- Eye Protection: Goggles or face-shield
- Other Precautions: Plastic apron, sleeves, boots - if handling large quantities

### *Environmental exposure controls:*

Do not allow to enter drinking water supplies, waste water or soil.

## 9. Physical and chemical properties

Physical State:	Crystals
Appearance:	Blue
Odour:	Odourless
pH:	3.5 - 4.5 (50g/l H <sub>2</sub> O)
Freezing/Melting Point:	110°C (decomposition)
Solubility in water:	Soluble.
Specific Gravity/Density:	2.29
Molecular Formula:	CuSO <sub>4</sub> .5H <sub>2</sub> O
Molecular Weight:	249.68

## 10. Stability and reactivity

Releases water of crystallisation when heated.

Substances to be avoided : Hydroxylamine. The possibility of reaction with other substances cannot be excluded.

Conditions to be avoided: Heating.

## 11. Toxicological information

- Inhalation: Irritation of the mucous membranes, coughing, and dyspnoea. Metal-fume fever after inhalation of large quantities.
- Skin contact: Slight irritation.
- Ingestion: gastric pain, vomiting, diarrhoea, drop in blood pressure, tachycardia, collapse, acidosis.
- Uptake of large quantities: After a latency period: death.

Further hazardous properties cannot be excluded. The product should be handled with care usual when dealing with chemicals.

### *Further data:*

LD50 960 mg/kg oral, rat.

LC50 >2000 mg/kg dermal, rat

No evidence of carcinogenic properties. No evidence of mutagenic or teratogenic effects.

## 12. Ecological information

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

### Further data:

Fish toxicity:

LC50 (L. macrochirus): 0.7-1.1 mg/l

LC50 (Pimephales promelas): 0.6-1.0 mg/l

Daphnia toxicity:

EC50 (Daphnia magna): 0.024 mg/l/48h

Algal toxicity:

EC50 (Sc. Quadricauda): 0.1 mg/l/4h

The following applies to copper compounds: biological effects: toxic for aquatic organisms; copper ions toxic for fish, algae, protozoa, and bacteria at concentrations below 1 mg/l. Fish: C. auratus toxic from 0,01 mg/l; mussels: 0.55 mg/l lethal in 12 h.; oysters: 0,1 mg/l toxic.

Toxic material likely to present a pollution hazard if allowed to enter drainage systems. Do not allow to enter drinking water supplies, waste water, or soil!

## 13. Disposal considerations

Chemical residues are generally classified as special waste, and as such are covered by regulations which vary according to location. Contact your local waste disposal authority for advice, or pass to a chemical disposal company. Rinse out empty containers thoroughly before returning for recycling.

## 14. Transport information

UN-No.: 3077

IMDG class: 9

IMO: 9/3077

Packaging group: III

IATA: 3077

Packaging group: III

Correct technical name:

**ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.,  
(COPPER(II) SULPHATE)**

ADR/RID: 9,12'(c)



## 15. Regulatory information

Labelling according to EC directives

Symbol: Xn N Harmful. Dangerous for the environment.



R-phrases: R22-36/38-50/53

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

S-phrases: S22-60-61

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 sheets.

EC-No.: 231-847-6

### Local Regulations

U.K. Transport Category 3

Within the UK, the use of this material must be assessed under the Control of Substances Hazardous to Health (COSHH) regulations.

UK Exposure Limits: None assigned

## **16. Other information**

Date of issue: 9 April 2008

### **Important Statement**

The information above is believed to be accurate and represents the best information currently available from multiple crosschecked sources.

However, we make no warranty express or implied, with respect to such information, and we assume no liability resulting from its use.

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