

CLIP, Chemical Laboratory Information Profile

"Only when you know the hazards, can you take the necessary precautionary measures."

Copper(II) Sulfate Pentahydrate $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ **CAS No.: 7758-99-8**

Synonyms: Cupric sulfate pentahydrate, Copper sulfate, Blue vitriol

Physical Properties

Blue crystalline solid. Dissolves in water forming an acidic, blue solution.

Vapor pressure at 20 °C: negligible

Melting point (anhydrous): 560 °C

Note: Pseudo melting at 30, 110, and 150 °C is caused by loss of water.

Exposure Limits

OSHA PEL: NE

ACGIH TLV: NE

Hazardous Characteristics

| Overall toxicity | Flammability | Destructive to skin/eye | Absorbed through skin | Sensitizer? | Self-reactive? | Incompatible with: |
|------------------|--------------|-------------------------|-----------------------|-------------|----------------|---|
| 2 | 0 | 2 (eyes) | 0 | No | No | No known significant incompatibilities. |

0: None (or very low); 1: Slight; 2: Moderate; 3: High; 4: Severe.

Cited as known to be or reasonably anticipated to be carcinogenic in NTP-9?

No

Identified as a reproductive toxin in Frazier and Hage, *Reproductive Hazards of the Workplace*?

No

Typical symptoms of acute exposures:

Irritation of skin (rarely, dermatitis). Sore throat, coughing, if dust inhaled. Can be corrosive to eyes; otherwise, eye irritation, pain, blurred vision. Abdominal pain, vomiting, diarrhea, if ingested.

Principal target organ(s) or system(s):

Skin, eyes, respiratory tract, blood, liver, kidneys.

Storage Requirements

With other chemicals in a cool, dry, well-ventilated general storage location.

Notes**ReadMe**

This Chemical Laboratory Information Profile is *not* a Material Safety Data Sheet. It is a brief summary for teachers and their students that describes some of the hazards of this chemical as it is typically used in laboratories. On the basis of your knowledge of these hazards and before using or handling this chemical, *you need to select the precautions and first-aid procedures to be followed*. For that information as well as for other useful information, refer to Material Safety Data Sheets, container labels, and references in the scientific literature that pertain to this chemical.

Reproductive Toxins

Some substances that in fact are reproductive toxins are not yet recognized as such. For the best readily available and up-to-date information, refer to "DART/ETIC". See the TOXNET home page at www.sis.nlm.nih.gov and click on "Toxicology search". *Note that some of the data in DART/ETIC have not been peer-reviewed*. See also Linda M. Frazier and Marvin L. Hage, *Reproductive Hazards of the Workplace*; Wiley, 1998; and T. H. Shepard, *Catalog of Teratogenic Agents*, 9th ed.; Johns Hopkins University Press, 1998.

Abbreviations

ACGIH TLV—American Conference of Governmental Industrial Hygienists—Threshold Limit Value. C—Ceiling. CAS—Chemical Abstracts Service. mg/m³—milligrams per cubic meter. NA—Not applicable. NE—Not established. NI—No information. NTP-9—National Toxicology Program, Ninth Annual Report on Carcinogens. OSHA PEL—Occupational Safety and Health Administration—Permissible Exposure Limit. ppm—parts per million. STEL/C—Short-term exposure limit and ceiling.

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Date of preparation: January 13, 2001