

Safety Data Sheet

Copper Sulfate Pentahydrate

Analytical chemical / laboratory reagent

SECTION 1: Identification of the substance and of the company

Product identifier	Copper Sulfate Pentahydrate
Chemical name	copper(II) sulfate pentahydrate
CAS number	7758-99-8
EC / List number	616-477-9
Relevant identified uses	Laboratory reagent; analytical and technical applications
Uses advised against	Human/animal consumption; food, supplement, cosmetic, medical, diagnostic or therapeutic use
Supplier	Rexar, Genestetstraat 3, 2394 XK Hazerswoude-Rijndijk, Netherlands
Contact	info@rexar.nl www.rexar.nl

SECTION 2: Hazards identification

Classification: Acute Toxicity (oral), Category 4; Serious Eye Damage, Category 1; Hazardous to the aquatic environment, Acute Category 1 and Chronic Category 1.

Signal word: Danger.

Hazard statements: H302 Harmful if swallowed. H318 Causes serious eye damage. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.

Precautions: Avoid ingestion and release to the environment. Wear appropriate eye/face protection and laboratory protective equipment. Wash thoroughly after handling.

SECTION 3: Composition / information on ingredients

Substance	copper(II) sulfate pentahydrate
CAS number	7758-99-8
PubChem CID	24463
Molecular formula	CuSO ₄ ·5H ₂ O
Molecular weight	249.69 g/mol
Purity	Lot-specific; refer to supplier documentation / COA

SECTION 4: First-aid measures

Inhalation: Move to fresh air and keep at rest. Seek medical attention if symptoms occur.

Skin: Remove contaminated clothing and wash skin thoroughly with soap and water.

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing and obtain prompt medical attention.

Ingestion: Rinse mouth. Do not induce vomiting unless directed by medical personnel. Seek medical attention.

SECTION 5: Fire-fighting measures

Substance is non-combustible. Use extinguishing media appropriate to the surrounding fire. Heating may generate sulfur oxides and copper-containing decomposition products. Fire-fighters should use suitable protective equipment.

SECTION 6: Accidental release measures

Avoid dust formation and exposure. Wear suitable gloves, protective clothing and eye/face protection. Collect mechanically into a labelled container. Prevent entry into drains, surface water and soil because the substance is highly hazardous to aquatic organisms.

SECTION 7: Handling and storage

Handle using good laboratory practice. Avoid ingestion, breathing dust and eye contact. Keep tightly closed in a dry, well-ventilated place away from incompatible materials. Prevent environmental release.

SECTION 8: Exposure controls / personal protection

Use adequate ventilation. Wear chemical-resistant laboratory gloves, protective clothing and safety goggles or a face shield appropriate to the task. Use suitable particulate respiratory protection where dust exposure cannot otherwise be controlled. Observe applicable occupational exposure requirements for copper-containing dusts/mists.

SECTION 9: Physical and chemical properties

Appearance	Blue crystalline granules or powder
Odour	Odourless
Molecular formula	$\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
Molecular weight	249.69 g/mol
Density	Approximately 2.29 g/cm ³
Thermal behaviour	Approximately 110 °C with decomposition / dehydration
Water solubility	Soluble
Flammability	Non-combustible

SECTION 10: Stability and reactivity

Stable under recommended storage conditions. The pentahydrate may lose water on heating. Avoid excessive heat, contamination and incompatible materials. Thermal decomposition can generate sulfur oxides and copper-containing products.

SECTION 11: Toxicological information

Harmful if swallowed. Acute oral toxicity data support Category 4 classification. Direct eye exposure may cause serious eye damage. Dust may irritate the respiratory tract. For complete toxicological data, refer to current supplier and regulatory documentation.

SECTION 12: Ecological information

Very toxic to aquatic life with long-lasting effects. Prevent release to drains, watercourses and soil. Environmental classification includes Aquatic Acute 1 and Aquatic Chronic 1.

SECTION 13: Disposal considerations

Dispose of substance and contaminated packaging through an authorised chemical-waste route in accordance with applicable local and national requirements. Do not discharge to drains or the environment.

SECTION 14: Transport information

Transport classification must be verified against the exact supplied grade, quantity and current carrier rules. Copper sulfate pentahydrate is commonly treated as an environmentally hazardous solid under dangerous goods transport rules; consult the applicable supplier SDS before shipment.

SECTION 15: Regulatory information

CAS 7758-99-8 is listed in ECHA substance and classification inventories. EU-aligned classification information includes Acute Tox. 4 (oral), Eye Dam. 1, Aquatic Acute 1 and Aquatic Chronic 1. Users remain responsible for jurisdiction- and use-specific regulatory obligations.

SECTION 16: Other information

Revision date: 10 September 2026.

Identity reference: PubChem CID 24463; CAS 7758-99-8.

Hazard basis: current public EU/ECHA-aligned classification information and public supplier safety documentation.

This SDS is a general laboratory safety reference and is not a certificate of analysis.