

**Copper(II) sulfate pentahydrate, for analysis, ExpertQ®, ACS, ISO,  
Reag. Ph Eur****Identification**

CuSO<sub>4</sub>·5H<sub>2</sub>O  
M = 249,68 g/mol  
CAS [7758-99-8]  
EC number: 231-847-6  
Taric code: 2833 25 00

**Synonyms**

Copper monosulfate pentahydrate, Copper vitriol pentahydrate

**Applications**

analytical chemistry, nitrogen determinations.

**Specifications**

assay (iodometric).....	99,0 - 102,0 %	iron (Fe).....	max. 30 ppm
insoluble matter.....	max. 0,005 %	nickel (Ni).....	max. 50 ppm
total nitrogen (as N).....	max. 0,002 %	potassium (K).....	max. 10 ppm
chlorides (Cl).....	max. 10 ppm	sodium (Na).....	max. 50 ppm
calcium (Ca).....	max. 50 ppm	zinc (Zn).....	max. 500 ppm

**Physical data**

- Appearance: crystals, blue
- Spec. Density: 2,29 g/cm<sup>3</sup>
- Bulk density: ~ 900 - 1200 kg/m<sup>3</sup>
- Solub. in water: (20 °C): ~ 317 g/l
- pH(50 g/l H<sub>2</sub>O, 20 °C) ~ 3,5 - 4,5

**Safety - GHS**

Signal Word: Warning

**Hazard Statements:**

- H302: Harmful if swallowed.  
H315: Causes skin irritation.  
H319: Causes serious eye irritation.  
H410: Very toxic to aquatic life with long lasting effects.

**Precautionary Statements:**

- P280: Wear protective gloves / protective clothing / eye protection / face protection.  
P273: Avoid release to the environment.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310: Immediately call a POISON CENTER or doctor / physician.  
P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
P501a: Dispose of contents / container in accordance with local / regional / national / international regulations.

**Transport/storage**

- ADR: 9 M7 III • UN 3077 • ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Copper(II) sulfate pentahydrate)
- IMDG: 9 III • UN 3077 • ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Copper(II) sulfate pentahydrate)
- IATA/ICAO: 9 III • UN 3077 • ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Copper(II) sulfate pentahydrate)
- PAX: 911
- CAO: 911
- 10°C - 30°C