

## COPPER(II) SULFATE PENTAHYDRATE

### SECTION 1: CHEMICAL PRODUCT IDENTIFICATION

**Product Name:** Copper(II) sulfate pentahydrate

**Product Code:** 320

**CAS#:** 7758-99-8

**Synonym:** Cobaltous sulfate

**Chemical Name:** Not available

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

**Formula weight :** 249.68

### SECTION 2: COMPOSITION AND INFORMATION ON INGREDIENTS

**Composition:**

**Name:** Copper(II) sulfate pentahydrate

**Toxicological Data on Ingredients:** Acute Tox. 4; Eye Dam. 1;

Aquatic Acute 1; AquaticChronic 1; H302, H318, H400, H410

### SECTION 3: HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

Serious eye damage (Category 1), H318

**Potential Acute Health Effects:** Short-term (acute) aquatic hazard (Category 1), H400

Acute toxicity, Oral (Category 4), H302

**Potential Chronic Health Effects:** Long-term (chronic) aquatic hazard (Category 1), H410

**Carcinogenic Effects:** Not available.

**Mutagenic Effects:** Not available.

**Teratogenic Effects:** Not available.

**Developmental Toxicity:** Not Available

### SECTION 4: FIRST AID MEASURES

**Description of first aid measures**

General advice Consult a physician. Show this safety data sheet to the doctor in attendance.

**If inhaled If breathed in:** Move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact** Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact:** Flush eyes with water as a precaution.

**If swallowed:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**Most important symptoms and effects, both acute and delay:** No data available

**Indication of any immediate medical attention and special treatment needed:** No data available

### SECTION 5: FIRE AND EXPLOSION DATA

**Extinguishing media**

**Suitable extinguishing media :**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special hazards arising from the substance or mixture**

Nature of decomposition products not known.

Not combustible.



Ambient fire may liberate hazardous vapours.

**Advice for firefighters** Wear self-contained breathing apparatus for firefighting if necessary.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures** Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

**Environmental precautions** Do not let product enter drains.

**Methods and materials for containment and cleaning up** Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers.

### SECTION 7: HANDLING AND STORAGE

#### Precautions for safe handling

Work under hood. Do not inhale substance/mixture.

#### Conditions for safe storage, including any incompatibilities

Tightly closed. Dry.

**Storage Class:** Air sensitive. hygroscopic Handle and store under inert gas.

Not available.

#### Specific end use(s) A part from the uses:

No other specific uses are stipulated

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Exposure controls

**Appropriate engineering controls** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

**Eye/face protection** Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Body Protection** Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection** For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure** Do not let product enter drains.

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance Form</b>	: Crystalline
<b>Colour</b>	: Blue
<b>Odour</b>	: Not available
<b>Odour Threshold</b>	: Not available
<b>pH</b>	: Not available
<b>Melting point/freezing point</b>	: 110°C
<b>Initial boiling point and boiling range</b>	: Not available
<b>Flash point</b>	: Not available
<b>Evaporation rate</b>	: Not available
<b>Flammability (solid, gas)</b>	: Not available



Upper/lower flammability or explosive limits	: Not available
Vapour pressure	: Not available
Vapour density	: Not available
Relative density	: 2,284 g/cm <sup>3</sup>
Water solubility	: Not available
Partition coefficient	: Not available
Auto-ignition temperature	: Not available

#### SECTION 10: STABILITY AND REACTIVITY DATA

**Reactivity** no data available

**Chemical stability**

The product is chemically stable under standard ambient conditions (room temperature).

**Possibility of hazardous reactions**

no data available

**Conditions to avoid :**

no data available

**Incompatible materials**

no data available

**Hazardous decomposition products** Other decomposition products - In the event of fire

#### SECTION 11: TOXICOLOGICAL INFORMATION

**Information on toxicological effects**

**Acute Toxicity:**

L LD50 Oral - Rat - 300 mg/kg

LD50 Dermal - Rat - > 2.000 mg/kg

**Skin corrosion/irritation** no data available

**Serious eye damage/eye irritation** no data available

**Respiratory or skin sensitization** no data available

**Carcinogenicity**

May cause cancer by inhalation.

#### SECTION 12: ECOLOGICAL INFORMATION

**Toxicity:**

Toxicity to fish static test LC50 - Oncorhynchus mykiss (rainbow trout) - 0,032 mg/l- 96 h

**Persistence and degradability:**

Not available.

**Bioaccumulative potential** no data available

**Mobility** in soil no data available

**Results of PBT and vPvB assessment** PBT/vPvB assessment not available

**Other adverse effects** no data available

#### SECTION 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods** Product Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging** Dispose of as unused product.

#### SECTION 14: TRANSPORT INFORMATION



**UN number:**

**ADR/RID:** 3077

**IMDG:** 3077

**IATA:** 3077

**UN proper shipping name**

**ADR/RID:** Environmentally Hazardous Substance, Solid, N.O.S. (Copper (II) sulfate pentahydrate)

**IMDG:** Environmentally Hazardous Substance, Solid, N.O.S. (Copper (II) sulfate pentahydrate)

**IATA:** Environmentally Hazardous Substance, Solid, N.O.S. (Copper (II) sulfate pentahydrate)

**Transport hazard class(es):**

**ADR/RID:** 9

**IMDG:** 9

**IATA:** 9

**Packaging group:**

**ADR/RID:** III

**IMDG:** III

**IATA:** III

**Environmental hazards:**

**ADR/RID:** Yes

**IMDG Marine pollutant:** Yes

**IATA:** Yes

**SECTION 15: OTHER REGULATORY INFORMATION**

**Regulatory information** This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**SECTION 16: OTHER INFORMATION**

**References: Full text of H AND R-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.

**Other Special Considerations:** Not available

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