

## 1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

**Product Identifier:**

**Product Name:** Copper Sulphate  
**CAS Number:** 7758-99-8  
**REACH Registration Number:** 01-2119520566-40-XXXX

**Relevant identified uses of the substance or mixture and uses advised against:**

**Identified use(s):** Copper Sulphate as a by-product of raw copper electrolytic purification. Manufacture of Copper Sulphate as a result of acidification in a batch process. Manufacture of Copper Sulphate as a result of chemical synthesis in a batch process. Copper Sulphate used in the manufacture of catalysts. Copper Sulphate used in catalysis products. Industrial use of Copper Sulphate Downstream use, professional sector, of Copper Sulphate. Downstream user consumer of Copper Sulphate. Wide dispersive use of Copper Sulphate.

**Uses advised against:** Uses other than those indicated are not recommended, unless an assessment is carried out before beginning said use, demonstrating that the related risks are controlled.

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## 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture:**

**Physical-chemical hazard:** The substance has no classification based on the physical-chemical hazards required by annex I of EC Regulation no. 1272/2008 (CLP) and all subsequent amendments and additions.

**Health hazards:** The substance is harmful if swallowed, causes serious eye damage.

**Environmental hazards:** The substance is classified as highly toxic to aquatic organisms with short- and long-term effects.

**Classification according to (EC) Regulation 1272/2008 (CLP) and subsequent amendments:** The substance is classified pursuant to the provisions of (EC) Regulation no. 272/2008 (CLP) (and subsequent amendments and additions). Information concerning personal and/or environmental health risks is provided in sections 11 and 12 of this data sheet.

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**Classification and identification of hazards:** Acute Tox. 4 H302.

Eye Dam. 1 H318.

Aquatic Acute 1 (M=10) H400.

Aquatic Chronic 1 H410.

The complete text of the hazard statements (H) is provided in section 16 of the sheet.

**Label elements:**

**Pictogram:**



**Signal word:**

Danger

**Hazard statement:**

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.

**Precautionary Statement:**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P280 Wear eye protection/face protection.

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/doctor.

P501 Dispose of contents/container in accordance with local/regional/ national/ international regulation.

**Other hazards:**

The substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Substances:**

Copper Sulphate Pentahydrate

**Reach Registration Number:**

01-2119520566-40-xxxx

**% (w/w):**

≥98 min

**CAS Number:**

7758-99-8

**EC Number:**

231-847-6

**Index Number:**

029-023-00-4

**Classification:**

Acute Tox. 4 H302. Eye dam. 1 H318. Aquatic Acute 1 (M=10) H400. Aquatic Chronic 1 H410

The complete text of the hazard statements (H) is provided in section 16 of the safety data sheet.

**Mixtures:**

Not applicable.

[cont...]

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## 4. FIRST AID MEASURES

**Description of first aid measures:** If in doubt or if there are symptoms, contact a doctor and show him/her this safety data sheet. For more severe symptoms, call 118 for immediate medical care. Call a POISON CENTRE for toxicology advice to manage the poisoning incident.

**Inhalation:** In case of inhalation, reduce exposure by using suitable ventilation. Bring the victim out in the open air and keep him/her at rest in a position that favours breathing. Call a doctor or a POISON CENTRE.

**Skin contact:** Remove contaminated clothing and wash with soap and water. In case of irritation, immediately call a doctor or a POISON CENTRE.

**Eye contact:** Immediately wash with water for at least 30-60 minutes. Rinse abundantly with water. Immediately call a doctor or a POISON CENTRE.

**Ingestion:** If swallowed, immediately call a POISON CENTRE or a doctor. Immediately show them the product safety data sheet and label. Do not administer anything orally if the victim is unconscious.

### Most important symptoms and effects, both acute and delayed:

#### Acute dose-dependent effects.

**Skin:** Irritation, sensitisation.

**Eyes:** Irritation.

**Lungs:** Irritation.

**Gastroenteric apparatus:** If swallowed; nausea, vomiting, abdominal cramping, melena Chronic effects.

**Skin:** Irritation, sensitisation.

**Eyes:** Irritation.

**Nose:** Irritation.

**Lungs:** Irritation, asthma, granulomatous lung disease.

**Liver:** Hepatic damage.

### Indication of any immediate medical attention and special treatment needed:

**Antidote:** Administer Methylene Blue for methemoglobinemia, BAL, DMPS, EDTA and d-penicillamine.

**Urgent medical intervention:** Jaundice and haemolysis can appear after 5-6 hours. Symptoms of liver failure can appear after 34 days.

## 5. FIRE-FIGHTING MEASURES

**Extinguishing Media:** The substance is not classified flammable according to the criteria of (EC) Regulation no. 1272/2008 (CLP) (and subsequent amendments and additions). Use the most appropriate fire-extinguishing methods for the specific situation (CO<sub>2</sub>, foam, nebulised water), evaluating compatibility with any other substances present where the fire is located.

**Special hazards arising from the substance or mixture:** If heated or in case of fire, the product may develop toxic fumes: sulphur oxides SO<sub>x</sub>.

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## Advice for fire-fighters:

### General information:

Cool the containers with water jets to prevent the product from decomposing and potentially harmful substances from developing. Always wear equipment provided with fire-fighting protection devices. Collect fire extinguishing water that must not be discharged into drains. Dispose of the contaminated fire extinguishing water and fire residues according to the standards in force. Equipment Wear normal fire-fighting clothes, such as self-contained, open-circuit compressed air breathing apparatus (EN 137), flame resistant clothing (EN 659) and fire-fighter boots (HO A29 or A30).

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures:

#### For emergency responders:

Move all non-appropriately equipped personnel away from the area to deal with the emergency. Use appropriate personal protective equipment (see Section 8) and refer to internal emergency management procedures, where applicable.

Use appropriate protection for airways to prevent breathing in any dust in the air. Allow workers to access the area affected by the accident only after decontamination. Appropriately air out the rooms.

#### For non-emergency personnel:

Alert the management staff about such emergencies. Move away from the accident area, if you are not equipped with the personal protective equipment listed in Section 8.

#### Environmental precautions:

Prevent the product from getting into sewers, rivers or other bodies of water by appropriately containing the spill; should this occur, immediately notify the local authorities in charge.

**Methods and material for containment and cleaning up:** Stop the leak if you can do so safely, clean up the spilled material with suitable mechanical means and dispose of it in compliance with the standards in force.

Leak decontamination methods: cover the product with inert material (sand or soil) and remove all the product from the area. Collect it inside closed, clean, dry and clearly identified containers and remove them from the area. Do not spray the contaminated area with water to clean it in order to prevent spreading the product with the subsequent risk of environmental contamination. If necessary, run the required decontamination procedure pursuant to Leg.Dec 152/2006, Part IV, Title V.

#### Reference to other sections:

Refer to Section 8 of this Safety Data Sheet for information on the type of personal protective equipment mentioned in Section 6.1. Refer to Section 13 for information on the precautions to take to properly dispose of spilled material.

## 7. HANDLING AND STORAGE

#### Precautions for safe handling:

Prevent dust from forming in the air. Do not breathe in dust. Use in a well-ventilated area, wearing the appropriate respiratory protective equipment. Do not eat, drink or smoke during use. After use, seal the container. Avoid contact with skin and eyes by wearing gloves, work clothing and protective goggles.

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**Conditions for safe storage, including any incompatibilities:** The structure of the storage area, the tank features, the equipment and the operating procedures must comply with the applicable European, national or local legislation. Only store in original containers or ones that are suitable to the type of product. Store away from flammable materials. Keep the containers sealed and properly labelled according to the indications in section 2.2 of this sheet. Avoid direct exposure to sunlight and protect from sources of heat and humidity. Storage must be in spaces that are preferably temperature-controlled.

**Specific end uses:** Refer to Section 1.2 and the other attached exposure scenarios.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposition limits:** Not specified

### DN(M)ELs for workers:

Exposure determinants	Exposure route	Value
Acute systemic effects	Dermal (mg/kg bw/day)	n.a.
Acute systemic effects	Inhalation (mg/m <sup>3</sup> )	n.a.
Acute systemic effects	Oral (mg/kg/bw/day)	n.a.
Chronic local systemic effects	Oral (mg/kg/bw/day)	0.04
Acute systemic effects	Dermal (mg/kg bw/day)	1
Acute systemic effects	Inhalation (mg/m <sup>3</sup> )	n.a.
Chronic local effects - systemic effects	Dermal (mg/kg bw/day)	n.a.
Chronic - systemic effects	Dermal (mg/kg bw/day)	13.7
Chronic - systemic effects	Inhalation (mg Cu/m <sup>3</sup> )	1

### PNEC

Type	Value
PNEC freshwater	7.8 µg/l
PNEC seawater	5.2 µg/l
PNEC sediments (freshwater)	87 mg/kg dw
PNEC sediments (seawater)	676 mg/kg dw
PNEC (estuary sediments)	288 mg/kg dw
PNEC soil	288 mg/kg dw
PNEC (STP)	230 µg/l

### Exposure controls:

**Appropriate engineering controls:** Provide for appropriate general ventilation to prevent and/or reduce the risk of inhaling dust.

**Respiratory protection:** If the limit value is exceeded (i.e.: TLV-TWA) for one or more substances contained in the preparation, in reference to daily exposure in the workplace or to a fraction established by the company prevention and protection service, wear a mask with type P filter with class (1, 2 or 3) selected based on the maximum concentration of use (ref. Standard EN 141).

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- Hand protection:** In case of extensive contact with the product, it is recommended to protect hands with penetration resistant work gloves, category III (ref. Directive 89/686/EEC and the EN 374 standard). For the final choice of the material of the work gloves, the use process of the product and any further products deriving from it must also be assessed. Also remember that latex gloves can give rise to sensitisation phenomena. The gloves must undergo periodic inspections and be replaced if worn, perforated or contaminated.
- Eye protection:** Wear sealed protective goggles (UNI EN 166). Protective shields for operations that cause sprays are recommended.
- Skin protection:** Wear category III professional use long-sleeved work clothes and safety footwear (ref. Directive 89/686/EEC and Standard EN 344). Wash with water and soap after removing the protective clothing. If clothing is contaminated, change and clean it.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Information on basic physical and chemical properties:

- Physical state:** Crystals / micro crystals
- Appearance:** Blue or light blue
- Smell:** Odourless
- Odour threshold:** Not applicable (the substance is odourless)
- pH:** Undetermined (the product is solid - In an aqueous solution, hydrolysis is slightly acidic)
- Melting point:** Not applicable (the substance decomposes at  $T \geq 110^{\circ}\text{C}$ )
- Boiling point and boiling range:** Not applicable (the substance decomposes at  $T \geq 110^{\circ}\text{C}$ )
- Flammability point:** Not applicable (inorganic substance, see Ann. VII, col. 2. of the REACH reg.)
- Flammability (solids):** Not flammable
- Lower flammability limit:** Not applicable
- Upper flammability limit:** Not applicable
- Vapour pressure:** Not applicable (inorganic substance, see Ann. VII, col. 2. of the REACH reg.)
- Vapour density:** Undetermined (the product is solid)
- Evaporation rate:** Undetermined (the product is solid)
- Relative density:** 2.286 g/cm<sup>3</sup>
- Water solubility:** 22 g/100g of water at 25°C
- Solubility in other solvents:** Undetermined
- Partition coefficient n-octanol/water:** Not applicable (inorganic substance, see Ann. VII, col. 2. of the REACH reg.)
- Auto-ignition temperature:** Not applicable (inorganic substance, see Ann. VII, col. 2. of the REACH reg.)
- Decomposition temperature:**  $\geq 110^{\circ}\text{C}$
- Viscosity:** Not applicable (inorganic substance, see Ann. VII, col. 2. of the REACH reg.)
- Explosive properties:** Not applicable (absence of chemical groups associated with explosive properties according to the provisions as per Annex I, Part 2, chap. 2.1.4.3 of (EC) regulation 1272/2008 – CLP).
- Oxidising properties:** Not oxidising (judgement based on experience: high activation energy for oxidation and high stability of the sulphate ion S-O bonds)
- Surface tension:** Not applicable
- Other information:** No further information

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### 10. STABILITY AND REACTIVITY

- Reactivity:** Normal caution in using chemical substances must be respected.
- Chemical stability:** Stable under the recommended storage conditions.
- Possibility of hazardous reactions:** Hazardous reactions are unknown.
- Conditions to avoid:** Storage in unintended conditions.
- Incompatible materials:** Harsh acids.
- Hazardous decomposition products:** Products that are potentially harmful to health (sulphur oxides) can form due to thermal decomposition or in case of fire

### 11. TOXICOLOGICAL INFORMATION

#### Information on toxicological effects:

**Toxicokinetics, metabolism and distribution:** Comparative bioavailability studies, solubility and toxicity studies have shown that relatively insoluble copper and sparingly soluble copper chloride are less bioavailable compared to more soluble copper salts, like copper sulphate.

Absorption. Copper is an essential element and, therefore, its concentration in the body is closely regulated by homeostatic mechanisms.

Oral absorption.

Absorption factor: 25% (Studies on rats)

Dermal absorption and cutaneous penetration

A 0.3% dermal absorption was adopted for the soluble and insoluble forms of copper in solution or suspension, based on percutaneous in-vitro tests with human skin. For such exposure (that is, of the composition neither in solution nor in suspension), a 0.03% dermal absorption value is applied. Inhalation.

The "breathable" fraction is absorbed at 100%. Inhalable fraction absorption depends on the particle dimensions, which is quantified by the MPPD (Multiple Path Model of Particle Deposition, Asharian and Freijer, 1999).

**Oral toxicity:** Based on the LD50 values and considering the criteria established by the CLP regulation, Annex I, Pentahydrate Copper Sulphate is classified Acute Tox. 4 H302, acute toxicity via the oral route. OECD Guideline 401 (Male/female rat): LD50: 482 mg/kg b.w.

**Inhalation toxicity:** The data available based on the distribution of the dimensions of Pentahydrate Copper Sulphate particles show that there is no possibility of exposure via the inhalation route. Therefore, the classification criteria for this hazard class are not met.

**Dermal toxicity:** The data on the acute dermal toxicity of Pentahydrate Copper Sulphate are not such to classify the substance toxic via the dermal route. OECD Guideline 402 (Acute Dermal Toxicity, male/female rat): LD50: > 2000 mg/kg.

**Skin corrosion/irritation:** The Copper Sulphate skin corrosion/irritation data do not meet the classification criteria for this hazard class. OECD Guideline 404 (Acute Dermal Irritation/Corrosion, Rabbit - 3 animals): Non-irritating.

**Serious eye damage/irritation:** The presented data show that Pentahydrate Copper Sulphate is classified Eye Dam 1 H318. OECD Guideline 405 (Acute Eye Irritation/Corrosion, Rabbit (New Zealand White) 3 animals) seriously irritating Irreversible damage during test duration.

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### Respiratory or skin sensitisation:

**Skin sensitisation:** The sensitisation data are conclusive but not sufficient to classify Pentahydrate Copper Sulphate as skin sensitising. OECD Guideline 406 (Skin Sensitisation, Guinea Pig): OECD Guideline 406 (Skin Sensitisation, Guinea Pig).

**Respiratory sensitisation:** The respiratory sensitisation data are not sufficient to classify Pentahydrate Copper Sulphate as respiratory sensitising.

### Germ cell mutagenicity:

**In vivo data:** The mutagenesis data are conclusive but not sufficient to classify Pentahydrate Copper Sulphate based on this hazard class. Non-programmed DNA synthesis (DNA damage and/or repair). Male rats. OECD Guideline 486. Test results (genotoxicity): negative. Mouse (CD-1) male/female EU Method B.12 (Mutagenicity - In Vivo Mammalian Erythrocyte Micronucleus Test) (Cited as Directive 2000/32/EC, B.12). Test results (genotoxicity): negative (male/female) Substance tested in vivo: Copper Sulphate In vitro data Bacterial reverse mutation assay OECD Guideline 471. Negative Substance tested in vivo: Copper Sulphate

**Carcinogenicity:** Using the Weight of evidence approach shows that the carcinogenicity data on Copper compounds are conclusive but not sufficient to classify Pentahydrate Copper Sulphate based on this hazard class.

**Reproductive toxicity:** The reproductive toxicity data are conclusive but not sufficient to classify Pentahydrate Copper Sulphate based on this hazard class. Oral OECD Guideline 416 (Rat): NOAEL > 1500 ppm. Substance tested: Pentahydrate Copper Sulphate.

**STOT – single exposure:** Specific target organ toxicity (STOT) - single exposure data are not available for Pentahydrate Copper Sulphate.

**STOT – repeated exposure:** Specific target organ toxicity (STOT) - repeated exposure data are conclusive but not sufficient to classify Pentahydrate Copper Sulphate based on this hazard class.

### Further information:

**Oral:** Rats and mice (repeated doses for 90 days). Equivalent Method to EU Method B.26. Damage to the forestomach. NOAEL 16.7 Cu/kg bw/day (rats) NOAEL 97 Cu/kg bw/day - mice (male); NOAEL 126 Cu/kg bw/day – mice (female). Liver and kidney damage NOAEL 16.7 Cu/kg bw/day (rats) Substance tested: Pentahydrate Copper Sulphate. This study was used to calculate the DNEL (oral and systemic) of 0.041 mg Cu/kg/bw/day (considering a Safety Factor of 100 and 25% oral absorption).

## 12. ECOLOGICAL INFORMATION

Use the product according to the good working practice avoiding to disperse material.

**Toxicity:** The acute toxicity of copper ions was evaluated using 451 L(E)C50 values from studies done on soluble copper compounds. An L(E)C50 of 25.0 µg Cu/l (referring to the geometric mean) obtained on Daphnia magna at 5.5-6.5 pH is the lowest species-specific value. Pentahydrate copper sulphate is classified as highly toxic for aquatic organisms.

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Copper is an essential nutrient, regulated by homeostatic mechanisms, that is not subject to bioaccumulation.

Bioavailable Copper ions are rapidly eliminated by the water column.

Pentahydrate Copper Sulphate is not classified as chronically toxic for the aquatic environment.

### Long-term toxicity:

**Chronic freshwater toxicity and PNEC data derivation:** The chronic toxicity of Copper ions deriving from soluble Copper compounds is estimated considering the values of 139 NOEC/EC10 of 27 species representing different trophic levels (fish, invertebrates and algae). The species-specific NOEC values were normalised using Biotic Ligand models and used to derive the Species Sensitivity Distribution (SSD) and the corresponding lowest concentration of protection HC5 value (the SSD fifth percentile median) of 7.8 µg dissolved Cu /l. This value is considered 90% protective for European surface waters and represents a reasonable worst case. A chronic PNEC value for freshwater of 7.8 µg dissolved Cu /l was established by applying an assessment factor of 1 to estimate the local risk.

**Chronic seawater toxicity and PNEC data derivation:** The chronic toxicity of Copper ions deriving from soluble Copper compounds is estimated considering the values of 51 NOEC/EC10 of 24 species representing different trophic levels (fish, invertebrates and algae). The species-specific NOEC values were calculated after normalising for the amount of dissolved Organic Carbon (DOC) and used to derive the SSD and HC5 values. Normalisation related to a typical coastal water DOC of 2 mg/l resulted in an HC5 of 5.2 µg dissolved Cu /l. A chronic PNEC value for seawater of 5.2 µg dissolved Cu /l was established by applying an assessment factor of 1 to estimate the local risk.

**Chronic freshwater sediment toxicity and PNEC data derivation:** The chronic toxicity of Copper ions deriving from soluble Copper compounds is estimated considering the values of 62 NOEC/EC10 of 6 benthic species. The NOEC were compared to the DOC and to Acid Volatile Sulphides (AVS) and were used to derive the SSD and HC5 values. An HC5 value of 1741 mg Cu/kg, corresponding to 87 mg Cu/kg/dw, is calculated for low AVS sediments with a base organic carbon value of 5%. A chronic PNEC value for freshwater sediments of 87 mg Cu/kg/dw was established by applying an assessment factor of 1 to estimate the local risk.

**Chronic terrestrial toxicity and PNEC data derivation:** The chronic toxicity of Copper ions deriving from soluble Copper compounds is estimated considering the values of 252 NOEC/EC10 of 28 species representing different trophic levels (decomposers, primary producers, primary consumers). The NOEC values were adjusted considering the differences between laboratory-contaminated soil and soil contaminated in the field, adding a leaching-ageing factor of 2. These values were then normalised at a range of EU soils using regressive bioavailability models and used to obtain SSD and the lowest HC5 value, which is 65.5 mg Cu/kg/dw. Applying an assessment factor of 1 assigns a soil PNEC base value of 65.5 mg Cu/kg/dw.

**STP toxicity:** The chronic toxicity of Copper ions deriving from soluble Copper compounds is estimated using NOEC and EC80 values of high quality studies with bacteria and protozoa used in sewage treatment plants (STP). The statistically derived NOEC is 0.23 mg Cu/L in STP. Applying an assessment factor of 1 assigns a PNEC value of 0.23 mg Cu/L for STPs.

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**Persistence and degradability:** Copper ions derived from Pentahydrate Copper Sulphate are not degradable. The transport of Copper Ions in the water column is studied using Ticket Unit World Models. Elimination was also estimated through a mesocosm study and three field studies. Rapid elimination was demonstrated (70% elimination in 28 days). The data in literature confirm the strong bonds between copper ions and sediment, with the formation of stable Cu-S compounds. However, Copper ions are not expected to remobilise from the water column. Therefore, the criteria to consider Copper as Persistent are not met.

**Bioaccumulative potential:** The bioaccumulation criteria are not applicable to essential metals.

**Mobility in soil:** Copper Ions bond strongly to soil. The mean water/soil partitioning coefficient (Kp) is 2120 L/Kg.

**Results of PBT and vPvB assessment:** Copper sulphate does not meet the PBT or vPvB substance criteria pursuant to Annex XIII of the REACH Regulation applied to inorganic substances and compounds.

**Other adverse effect:** Pentahydrate copper sulphate does not contribute to ozone layer damage, ozone formation, global warming and acidification.

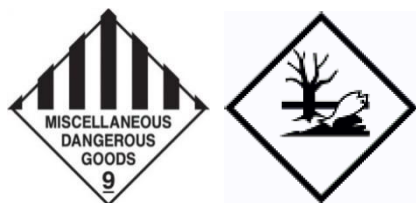
### 13. DISPOSAL CONSIDERATIONS

**Waste treatment method:** To reduce the volume of waste, appropriately treat empty containers, packaging material and contaminated material. Limit substance leaking from empty containers, packaging material and contaminated material into water and soil via: recycling; intended use; specific cleaning operations; disposal of empty or contaminated containers or materials used for cleaning as hazardous waste.

### 14. TRANSPORT INFORMATION

**UN Number:** 3077

**Label:**



**Shipping Name:** Environmentally hazardous substance, solid, N.O.S. (copper sulphate)

**EMS Code:** F-A, S-F

**Packing group:** III

**Transport hazard class:** 9

**Environmentally hazardous substance:** Yes

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### ADR/ADN/RID:

**Classification code:** M7  
**Kemler code:** 90  
**Transport category:** 3  
**Special provisions:** 274 – 335 – 375 – 601  
**Limited amount:** 5Kg  
**Exempt amount:** E1  
**Tunnel code:** (E)

### IMDG:

**Special provisions:** 274 – 335 – 966 – 967 – 969  
**Exempt amount:** 5Kg

### IATA:

**Exempt amount:** E1  
**Packaging instructions:** Cargo: 956. Passengers: 956  
**Maximum amount:** 400 kg  
**Special instructions:** A97/A158/A179/A197

**Transport in bulk according to Annex II of Marpol and the IBC Code:** If you intend to transport in bulk, adhere to Annex II MARPOL 73/78 and the IBC code, where applicable.

## 15. REGULATORY INFORMATION

### Safety, health and environmental regulations/legislation specific for the substance or mixture:

#### Authorisation pursuant to Title VII and Annex XIV of the REACH regulation (EC no. 1907/2006 and subsequent

**amendments and additions):** Copper sulphate is not listed as a substance requiring authorisation.

**Seveso category:** E1

#### Restrictions to use pursuant to Title VII and Annex XVI of the REACH regulation (EC no. 1907/2006 and subsequent

**amendments and additions):** Substance not subject to restrictions pursuant to Title VIII (Annex XVII, point 3).

**Healthcare controls:** Any workers exposed to this chemical agent, that is hazardous to health, must receive health supervision, carried out according to the provisions of article 41 of Italian Legislative Decree 81 of 9 April 2008, should assessment of article 224, paragraph 2 of the decree find an important health risk. 1

**Chemical safety assessment:** A CSR (Chemical Safety Report) was written after concluding the chemical safety assessment.

**Note:** The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

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## 16. OTHER INFORMATION

### Complete text of the risk phrases mentioned under point 2 and 3:

Acute Tox. 4 Acute toxicity, category 4  
Eye Dam 1 Eye damage, category 1  
Aquatic Acute 1 Hazardous for aquatic environments - Acute hazard, category 1  
Aquatic Chronic 1 Hazardous for aquatic environments - Chronic hazard, category 1  
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

### Bibliography:

EC Regulation No.1907/2006 of the European Parliament (REACH) and subsequent amendments and additions.  
EC Regulation No.1272/2008 of the European Parliament (CLP) and subsequent amendments and additions.  
(EC) Regulation 830/2015 of the European Commission. Chemical safety report (Copper sulphate - July 2013 Update) Guidance on the safe use – registration dossier

### Abbreviations:

ADR: European agreement concerning the transport of dangerous goods by road  
CAS NUMBER: Chemical Abstract Service Number  
CE50: Concentration that gives effect to 50% of the population tested  
CE NUMBER: ESIS (Existing Substances Information System) Identification Number  
CLP: EC Regulation No.1272/2008  
CUTE: substance with risk of skin absorption.  
DNEL: Derived No Effect Level  
EmS: Emergency Schedule  
GHS: Globally Harmonised System of classification and labelling of chemicals  
h: vapours and aerosols  
i: inhalable fraction, measured according to ACGIH notes  
IATA DGR: Regulations for the transport of dangerous goods by the International Air Transport Association  
BEI: Biological Exposure Index  
IC50: Immobilisation Concentration 50% of the population tested  
IMDG: International maritime code on the transport of dangerous goods  
IMO: International Maritime Organisation  
INDEX NUMBER: Identification number in Annex VI of CLP  
LC50: Lethal Concentration 50%  
LD50: Lethal Dose 50%  
LOAEC: Lowest Observable Adverse Effect Concentration  
NOAEC: No Observed Adverse Effect Concentration  
NOAEL: No Observed Adverse Effect Level  
OEL: Occupational Exposure Level  
PBT: Persistent Bioaccumulative and Toxic according to REACH Regulation

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PEC: Predicted Environmental Concentration

PEL: Predicted Exposure Level

PNEC: Predicted No Effect Concentration

REACH: EC Regulation No.1907/2006

RID: Regulations for the international carriage of dangerous goods by rail

TLV: Threshold Limit Value

TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.

TWA STEL: Short-term Exposure Limit

TWA: Time-Weighted Average exposure limit

VOC: Volatile Organic Compounds

vPvB: Very Persistent and very Bioaccumulative according to REACH Regulation.

**Source of key data used to compile the data sheet:** Supplier information

**Legal disclaimer:**

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation.

This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.