

SDS

Copper (II) Sulphate Pentahydrate

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment
Regulation (EC) No. 830/2015



ENG Version 1.04/ 01.11.2018

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form:	Substance
Substance name	Copper (II) sulphate pentahydrate with anticake
Formula:	CuSO ₄ .5H ₂ O
EG/Einecs number:	231-847-6
CAS No.:	7758-99-8
REACH registration No.:	01-2119520566-40-0016 / Romanian origin 01-2119520566-40-0025 / Turkish origin

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

In agriculture as a soil additive, pesticide; feed additive; germicide; leather and textile mordant; pigment; electroplating and electro refining of copper; medicine; wood and pulp preservative; engraving and lithography; in mining ore treatment; steel and rubber processing.

1.2.2. Uses advised against

Copper Sulphate Pentahydrate that contains Nickel Sulphate at a concentration of >0.1% should not be used in consumer products unless the resulting Nickel Sulphate concentration in the product is <0.1% w/w

1.3. Details of the supplier of the safety data sheet

Company Details:	CUPRICHEM LIMITED Ground Floor, Palace Court Church Street, STJ 3049 St. Julians, Malta
Production plant 1:	BAKIRSULFAT KIMYA SAN VE TIC AS Organize Sanayi Bolgesi, 2. Cadde, 11. Sokak, No 3 Afyonkarahisar 03030 Turkey
Production plant 2:	SC ZLATCUP SRL Str Garii Nr 10 Zlatna 516100 Romania

1.3.1. Emergency phone numbers

Emergency Telephone number:	+90 216 4179414 (working hours) / +90 532 3349122 (24 hours)
Worldwide:	http://www.who.int/ipcs/poisons/centre

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to (EC 1272/2008)

Acute Toxicity: Oral,	Category 3	H302
Serious Eye Damage/Eye Irritation,	Category 1	H318
Aquatic Toxicity (Acute),	Category 1	H400
Aquatic Toxicity (Chronic),	Category 1	H410

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2.2. Label elements



Signal word CLP: **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.

Precautionary statements:

- P273** Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/ face protection.
P301+312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P305+351+338 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.
P391 Collect spillage.
P501 Dispose of contents / container to ... Dispose of waste and residues in accordance with local authority requirements.

2.3. Other hazards

Material is acidic when dissolved in water

SECTION 3: Composition/information on ingredients

3.1. Substances

Product Name	COPPER SULPHATE PENTAHYDRATE
REACH Registration Number	01-2119520566-40-0016 and 01-2119520566-40-0025
CAS-No.	7758-99-8
EU Index No.	029-023-00-4
EC No.	231-847-6

3.2 Mixtures

Product Name	SILICIUM DIOXIDE (PRECIPATED SILICA)
Proportion	2%
REACH registration No.:	01-2119379499-16-0058
CAS-No.	7631-86-9
EC No.	231-545-4

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SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general:	When in doubt or if symptoms are observed, get medical advice.
First-aid measures after inhalation:	If possible reduce exposure using fresh air. Remove from exposure take the person to a well aerated place and keep calm. Seek medical advice.
First-aid measures after skin contact:	Take off contaminated clothes and wash with soap and plenty of water all the contaminated parts of the body. In case of irritation seek medical advice.
First-aid measures after eye contact:	Wash immediately with plenty of water for at least 15 minutes. Seek medical advice.
First-aid measures after ingestion:	If swallowed, do not induce vomiting: seek medical advice immediately and show this container

4.2. Most important symptoms and effects, both acute and delayed

See above, worried breath, skin irritation and eye irritation, stomach pain.

4.3. Indication of any immediate medical attention and special treatment needed

See above, get immediate medical attention if irritation or discomfort persist or in case of ingestion.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Product is not flammable. Use extinguishing media appropriate for surrounding fire (micronized water, CO₂, foam).

Unsuitable extinguishing media : all is allowed, if suitable for surrounding, environment or stored materials

5.2. Special hazards arising from the substance or mixture

Avoid breathing fumes that could be toxic (presence of sulphur oxides SO_x).

Fire hazard:	Unusual fire hazard
Explosion hazard:	Unusual explosion hazard
Reactivity:	When heated above 400C the product will emit toxic fumes like cupric oxide and sulfur dioxide. Material is acidic when dissolved in water and can react with magnesium to form hydrogen gas.

5.3. Advice for firefighters

Precautionary measures fire: Follow all the normal fire-fighting procedures.

Protection during firefighting: Fire-fighters should wear proper protective equipment and self-contained (positive pressure if available) breathing apparatus with full face piece.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Provide adequate ventilation. Use protective gloves, goggles and suitable protective clothing.

6.2. Environmental precautions

Prevent entry into drains and other water sources

6.3. Methods and material for containment and cleaning up

Avoid dust formation. Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into closed container. Cover the product with sand or soil and carefully clean up all the product. Put it into another clean and dry container, close and remove it from the area. Do not clean contaminated area with water.

6.4. Reference to other sections

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid dust formation. Do not breathe dust. Handle in a well-ventilated area or wear adequate respiratory protection (anti-dust mask). Avoid contact with skin and eyes wearing working clothes, gloves and protective glasses. Do not eat, smoke or drink during use. After use keep the packaging well closed.

Precautions for safe handling: Prevent unauthorized access. Avoid contact with skin and eyes. Do not dry up the product.

Hygiene measures: Do not eat, drink or smoke when using this product. Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Wash contaminated clothing before reuse. Wash hands before eating. Wear full protective clothing for prolonged exposure and/or high concentrations.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Keep container tightly closed and in a well-ventilated place.

Storage conditions: Store in original container

7.3. Specific end use(s)

See section 1

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational (work place) exposure limit values (OEL's TWA 8 hours):

CuSO₄: 1 mg/m³ (average existing national OEL)

0.1 mg/m³ (Germany, MAK)

For specific countries check respective data valid for each country. Personal protective equipment should be worn

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in case this work place exposure level cannot be maintained, e.g. PPE2 dust masks.

REACH DNEL's, PNEC's and ERV's (from the CSR) for CuSO₄ are as follows:

Worker's health (Copper sulphate)

Long term systematic effects, dermal: DNEL=137 mg/m³

Other routes not reported / observed

Environment (Copper sulphate)

Aquatic: PNEC = 7.8 ng/l (fresh water)

PNEC = 5.2 ng/l (marine)

Sediment: PNEC = 87 mg/kg (fresh water)

PNEC = 676 mg/kg (marine)

8.2. Exposure controls

Appropriate engineering controls: Natural ventilation should be adequate under normal use conditions.
Local exhaust ventilation (LEV) advised

Personal protective equipment: Gloves, glasses, Dust mask, and suitable protective clothes

Hand protection: Use protective gloves

Eye protection: Mask or glasses

Skin and body protection: Suitable protective clothes

Respiratory protection: If LEV is not working or in place, suitable dust mask with an appropriate filter is required

Environmental exposure controls: Do not allow uncontrolled discharge of product into the environment
Avoid release to the environment.



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Solid crystalline powder
Appearance:	Blue Crystals or crystalline powder
Colour:	Blue
Odour:	None
Odour threshold:	N.A.
pH:	4.0
Melting point:	110 C
Freezing point:	N.A.
Boiling point:	110 C
Flash point:	N.A.
Flammability (solid, gas):	N.A.

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Explosive limits:	N.A.
Vapour pressure:	7.3 mm Hg at 25C
Relative density:	2.286 g/cm ³
Solubility:	22g/100ml
Self-ignition temperature:	N.A.
Decomposition temperature:	N.A.
Viscosity, kinematic:	N.A.
Viscosity, dynamic:	N.A.
Explosive properties:	N.A.
Oxidizing properties:	N.A.

9.2. Other information

Product is hygroscopic and reacts with Acid

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable at normal handling- and storage conditions.

10.2. Chemical Stability

The product is stable at normal handling- and storage conditions, but is hygroscopic

10.3. Possibility of hazardous reactions

Decomposes above 110C

10.4. Conditions to avoid

Avoid high temperatures and avoid exposure to air and climate changes, keep dry to avoid caking. Avoid accumulation of dust and spillage to enter drains or water courses.

10.5. Incompatible materials

Incompatible with finely powdered metals, steel, nitromethane, hydrazine, hydroxyl amine and magnesium

10.6. Hazardous decomposition products

Oxides of copper. Oxides of sulfur

SECTION 11:

11.1. Information on toxicological effects

Acute toxicity:	Oral by ingestion, danger of serious damage to health by prolonged exposure through inhalation
Skin corrosion/irritation:	Skin contact may cause irritation. Prolonged contact may cause dermatitis
Serious eye damage/irritation:	Can irritate and may cause corneal damage
Respiratory or skin sensitization:	N.A
Germ cell mutagenicity:	
Carcinogenicity:	Not considered to be
Reproductive toxicity:	N.A
Specific target organ toxicity (single exposure) :	NA
Specific target organ toxicity (repeated exposure) :	Prolonged exposure (years) may lead to Chronic effects like above and may cause damage to kidneys and liver
Aspiration hazard:	

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SECTION 12: Ecological information

12.1. Toxicity

Very toxic to aquatic life, LC 50/96 hour values for Fish < 1 mg/l

12.2. Persistence and degradability

When released into soil or water, material is not expected to be Biodegrade

12.3. Bio accumulative potential

Bio accumulation may occur along the food chain

12.4. Mobility in soil

In soil, material will leach into the groundwater

12.5. Results of PBT and vPvB assessment

N.A.

12.6. Other adverse effects

Not reported

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Refer to local government authority for disposal recommendations.

SECTION 14: Transport information

In accordance with ADR / RID / ADNR / IMDG / ICAO /IATA

14.1. UN number

UN-No.: 3077

14.2. UN proper shipping name

Proper Shipping Name:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Transport document description:

UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S., 9, III, (E)

14.3. Transport hazard class(es)

Class (UN): 9

Hazard labels (UN): 9



14.4. Packing group

Packing group (UN): III

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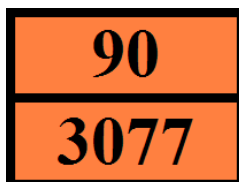
14.5. Environmental hazards

Marine pollutant: P
Other information: N/A

14.6. Special precautions for user

14.6.1. Overland transport

Hazard identification number (Kemler No.): 90
Classification code: M7
Orange plates:



Tunnel restriction code: E

14.6.2. Transport by sea

Limited quantities (IMDG):
Excepted quantities (IMDG): F-A
EmS-No.: S-F

14.6.3 Air transport

Conform IATA rules: Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

N.A.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Copper Sulphate is listed on the list of dangerous substances and its amendments, annex I 67/548/EC and Annex VI 1272/2008. This substance is (Pre)-registered as special preparation according to Reach legislation, EC 1907/2006, by its constituent elements. This MSDS complies with the requirement of EC 1907/2006 Annex II and EU/453/2010

15.2. Chemical safety assessment

A chemical safety assessment has been carried out under Reach

SECTION 16: Other information

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. Cuprichem LTD cannot accept any responsibility for loss or damage arising from the use or reliance upon this information