

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

1.1. Product identifier

Product form : Substance
Name : Cupric sulphate pentahydrate
EC Index-No. : 029-023-00-4
EC-No. : 231-847-6
CAS-No. : 7758-99-8
Formula : $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Nutrient; Dietary Supplement

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer

JOST CHEMICAL CO.
8150 Lackland Rd.
MO 63114 Saint Louis - USA
T +1 314-428-4300 - F +1 314-428-4366
sds@jostchemical.com - www.jostchemical.com

Distributor

JOST CHEMICAL EUROPE SPRL
Rue du Bois Portal 30/1-3
5300 Andenne - BELGIQUE
T +32 85 552 655 - F +32 85 552 654
info@jostchemical.com

1.4. Emergency telephone number

Emergency number : For Hazardous Materials [or Dangerous Goods] Incident Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
United States and Canada: 1-800-424-9300 / +1 703-527-3887
Global: +1 703-741-5970

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

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

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

Harmful if swallowed. Causes serious eye damage. Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS05

GHS07

GHS09

Signal word (CLP) :

Danger

Cupric sulphate pentahydrate

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

Hazard statements (CLP)	: H302 - Harmful if swallowed. H318 - Causes serious eye damage. H410 - Very toxic to aquatic life with long lasting effects.
Precautionary statements (CLP)	: P264 - Wash hands, forearms and face thoroughly after handling. P280 - Wear eye protection, face protection, protective gloves, protective clothing. P301+P312 - IF SWALLOWED: Call doctor, a POISON CENTER if you feel unwell. P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call doctor, a POISON CENTER. P391 - Collect spillage. P273 - Avoid release to the environment.

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Cupric sulphate pentahydrate	(CAS-No.) 7758-99-8 (EC-No.) 231-847-6 (EC Index-No.) 029-023-00-4	100	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. In case of redness or irritation, call a doctor.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an eye specialist immediately, even if there are no immediate symptoms.
First-aid measures after ingestion	: Rinse mouth. Call a physician immediately.

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

Symptoms/effects after inhalation	: Inhalation of dust. Dry/sore throat. Cough.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Dizziness, headaches, nausea. Vomiting. Diarrhea.

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

Treat symptomatically.

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Not combustible.
Hazardous decomposition products in case of fire : Toxic fumes may be released. Sulphur oxides.

5.3. Advice for firefighters

Precautionary measures fire : Exposure to fire/heat: have neighbourhood close doors and windows. Keep upwind. Consider evacuation.
Firefighting instructions : Use water spray or fog for cooling exposed containers. Contain the extinguishing fluids by bunding (the product is hazardous for the environment). Use water moderately and if possible collect or contain it.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid creating or spreading dust. Avoid contact with eyes.
Measures in case of dust release : If dust are formed : Keep upwind. Have neighbourhood close doors and windows.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Do not allow product to spread into the environment. Do not discharge into drains or rivers.

6.3. Methods and material for containment and cleaning up

For containment : Dam up the solid spill. Knock down/dilute dust cloud with water spray.
Methods for cleaning up : Mechanically recover the product.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

Concerning disposal elimination after cleaning, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with eyes. Wear personal protective equipment.
Hygiene measures : Do not drink, eat or smoke in the workplace. Always wash hands after handling the product. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
Storage conditions : Store in dry, cool, well-ventilated area. Keep container tightly closed. Protect from heat and direct sunlight.
Incompatible materials : Acetylene. Metallic powders. Magnesium.
Heat and ignition sources : Keep away from sources of ignition.

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7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Cupric sulphate pentahydrate (7758-99-8)

EU - Occupational Exposure Limits

Local name	Copper(II) sulfate pentahydrate
IOELV TWA (mg/m ³)	0.01 mg/m ³ (respirable fraction)
Notes	(Year of adoption 2014)
Regulatory reference	SCOEL Recommendations

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Hand protection:

Nitrile-rubber protective gloves. Layer thickness : 0,11 mm. Breakthrough time : > 480 min. The protective gloves to be used must comply with the specifications of the regulation 2016/425 and the resultant standard EN 374

Eye protection:

Safety glasses

Skin and body protection:

Protective clothing

Respiratory protection:

Dust production: dust mask with filter type P3. Dust production: dust mask with filter type P2

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Blue crystals, Blue powder.
Molecular mass	: 249.69 g/mol
Colour	: Blue.
Odour	: Odourless.
Odour threshold	: No data available
pH	: No data available
pH solution	: 4 (3.2%)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 110 °C
Freezing point	: Not applicable
Boiling point	: Not applicable
Flash point	: Not applicable
Critical temperature	: Not applicable
Auto-ignition temperature	: No data available
Decomposition temperature	: > 110 °C
Flammability (solid, gas)	: Not flammable

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Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 2.3
Density	: 2286 kg/m ³
Solubility	: Soluble in water. Soluble in methanol. Soluble in glycerol. Water: 23 g/100ml Ethanol: 16 g/100ml (18 °C)
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive.
Oxidising properties	: Non oxidizing material according to EC criteria.
Explosive limits	: No data available

9.2. Other information

VOC content	: 0 %
Other properties	: Hygroscopic product. Substance has acid reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts on exposure to water (moisture) with (some) metals.

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use. Hygroscopic product.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Acetylene. Magnesium. Metallic powders.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)

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LD50 oral rat	481 mg/kg (OECD 401 method)
LD50 dermal rat	> 2000 mg/kg (OECD 402 method)

Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)

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STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)

Aspiration hazard : Not classified (Not applicable)

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life.

Hazardous to the aquatic environment, long-term (chronic) : Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

Cupric sulphate pentahydrate (7758-99-8)

Persistence and degradability	Not applicable.
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12.3. Bioaccumulative potential

Cupric sulphate pentahydrate (7758-99-8)

BCF	13 mg/kg (Cyprinus carpio)
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Bioaccumulative potential	bioaccumulative.
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Cupric sulphate pentahydrate (7758-99-8)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Dispose of in accordance with relevant local regulations. Do not discharge into drains or the environment.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

ADR	IMDG	IATA
14.1. UN number		
UN 3077	UN 3077	UN 3077

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14.2. UN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (cupric sulphate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (cupric sulphate)	Environmentally hazardous substance, solid, n.o.s. (cupric sulphate)
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14.3. Transport hazard class(es)

9	9	9

14.4. Packing group

III	III	III
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14.5. Environmental hazards

Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes
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Dangerous for the environment

14.6. Special precautions for user

Overland transport

Classification code (ADR)	: M7
Special provisions (ADR)	: 274, 335, 375, 601
Limited quantities (ADR)	: 5kg
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P002, IBC08, LP02, R001
Special packing provisions (ADR)	: PP12, B3
Mixed packing provisions (ADR)	: MP10
Portable tank and bulk container instructions (ADR)	: T1, BK1, BK2, BK3
Portable tank and bulk container special provisions (ADR)	: TP33
Tank code (ADR)	: SGAV, LGBV
Vehicle for tank carriage	: AT
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V13
Special provisions for carriage - Bulk (ADR)	: VC1, VC2
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV13
Hazard identification number (Kemler No.)	: 90
Orange plates	:

Tunnel restriction code (ADR) : -

Transport by sea

Special provisions (IMDG)	: 274, 335, 966, 967, 969
Limited quantities (IMDG)	: 5 kg
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: LP02, P002
Special packing provisions (IMDG)	: PP12
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B3
Tank instructions (IMDG)	: BK1, BK2, BK3, T1
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-F
Stowage category (IMDG)	: A
Stowage and handling (IMDG)	: SW23
MFAG-No	: 171

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Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y956
PCA limited quantity max net quantity (IATA)	: 30kgG
PCA packing instructions (IATA)	: 956
PCA max net quantity (IATA)	: 400kg
CAO packing instructions (IATA)	: 956
CAO max net quantity (IATA)	: 400kg
Special provisions (IATA)	: A97, A158, A179, A197
ERG code (IATA)	: 9L

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Cupric sulphate pentahydrate is not on the REACH Candidate List

Cupric sulphate pentahydrate is not on the REACH Annex XIV List

Cupric sulphate pentahydrate is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Cupric sulphate pentahydrate is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

VOC content : 0 %

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:

This sheet was updated (refer to the date at the top of this page). This sheet has been revised completely (changes were not marked).

Data sources	: SDS of suppliers. ECHA - European Chemicals Agency.
Other information	: Safety data sheet established by : LISAM TELEGIS 17 rue de la Couture F-60400 Passel www.lisam-telegis.com.

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, 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.

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SDS EU (REACH Annex II)

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.