

Copper sulphate pentahydrate

Safety Data Sheet

according to Regulation (EC) No. 453/2010

Revision date: :

Version: 1.0

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

1.1. Product identifier

Product form : Substance
 Substance name : Copper sulphate pentahydrate
 EC no : 231-847-6
 CAS No : 7758-99-8
 Product code : 250023 / 250031
 Synonyms : Copper (II) sulfate pentahydrate / Cuprum sulph.

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial
 For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

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 2031BH Haarlem - Netherlands
 T +31(0)23-5319093 - F +31(0)23-5318027
info@duchefa.com - www.duchefa.com

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number
UNITED KINGDOM	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	0870 243 2241

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
 Skin Irrit. 2 H315
 Eye Irrit. 2 H319
 Aquatic Chronic 1 H410

Full text of H-phrases: see section 16

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Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xn; R22

Xi; R36/38

N; R50/53

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS07

GHS09

Signal word (CLP) : Warning

Hazard statements (CLP) : 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 (CLP) : P280 - Wear protective gloves/protective clothing/eye protection/face protection
P273 - Avoid release to the environment
P302+P352 - IF ON SKIN: Wash with plenty of soap and water
P305 - IF IN EYES:
P351 - Rinse cautiously with water for several minutes

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Name : Copper sulphate pentahydrate

CAS No : 7758-99-8

EC no : 231-847-6

Name	Product identifier	%	Classification according to Directive 67/548/EEC
Copper sulphate pentahydrate (Main constituent)	(CAS No) 7758-99-8 (EC no) 231-847-6	100	Xn; R22 Xi; R36/38 N; R50/53

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Copper sulphate pentahydrate (Main constituent)	(CAS No) 7758-99-8 (EC no) 231-847-6	100	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Chronic 1, H410

Full text of R- and H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Assure fresh air breathing. Allow the victim to rest.
First-aid measures after skin contact	: Wash with plenty of soap and water. Wash contaminated clothing before reuse. Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Ensure adequate flushing of eyes by separating eyelids with the fingers. Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Call a POISON CENTER/doctor/physician if you feel unwell. Drink plenty of water.

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

Symptoms/injuries	: Vomiting. Abdominal pain. Diarrhea. collapse.
Symptoms/injuries after inhalation	: Irritation of the respiratory tract and the other mucous membranes. Cough. Shortness of breath. Inhalation of fumes may cause metal fume fever.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: Causes serious eye irritation. Blurred vision. Conjunctivitis.
Symptoms/injuries after ingestion	: Swallowing a small quantity of this material will result in serious health hazard. May cause irritation to the digestive tract.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: All extinguishing agents can be used. Making extinguishing agents environment-friendly.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

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5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Avoid raising dust.

6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

6.4. Reference to other sections

Reference to other sections (8, 13).

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour.
- Hygiene measures : Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in a dry place. Keep container closed when not in use. Keep only in the original container in a cool, well-ventilated place.
- Incompatible products : Strong bases. Strong acids.
- Incompatible materials : Sources of ignition. Direct sunlight.
- Storage temperature : 15 - 25 °C

7.3. Specific end use(s)

Pharmaceutical industry.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

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8.2. Exposure controls

Personal protective equipment	: Avoid all unnecessary exposure.
Hand protection	: Wear rubber gloves or Latex gloves. Wear gloves to EN374 to protect against skin effects from powders.
Eye protection	: Chemical goggles or safety glasses.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: Approved dust respirator.
Other information	: Do not eat, drink or smoke during use.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline powder.
Colour	: Blue.
Odour	: odourless.
Odour threshold	: No data available
pH	: 4
pH solution	: 50 g/l 20 ° C
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: > 560 °C
Flammability (solid, gas)	: Non flammable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 2,29 g/cm ³ 20 ° C
Solubility	: Water: 317 g/l 20 ° C
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

Other properties : Bulk density: 900-1200 kg/m³; 20 ° C.

SECTION 10: Stability and reactivity

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10.1. Reactivity

No additional information available

10.2. Chemical stability

> 560 °C.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Hydroxylamine.

10.6. Hazardous decomposition products

Sulphur oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed.

Copper sulphate pentahydrate(7758-99-8)	
LD50 oral rat	300 mg/kg
	LDLo oral 50 mg/kg man

Skin corrosion/irritation	: Causes skin irritation. pH: 4
Serious eye damage/irritation	: Causes serious eye irritation. pH: 4
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
Specific target organ toxicity (single exposure)	: Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity (repeated exposure)	: Not classified Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified Based on available data, the classification criteria are not met

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Potential adverse human health effects and symptoms : Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : For copper connections: High aquatic toxicity. Toxic to aquatic organisms, fish, algae, protozoa and bacteria concentrations below 1 mg / l.

Ecology - water : Very toxic to aquatic life with long lasting effects.

Copper sulphate pentahydrate(7758-99-8)	
LC50 fishes 1	0,8 mg/l
Fish	C. auratus 0.01 mg / l lethal; Mussels

12.2. Persistence and degradability

Copper sulphate pentahydrate(7758-99-8)	
Persistence and degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential

Copper sulphate pentahydrate(7758-99-8)	
Bioaccumulative potential	BCF (fish): 5.7; BCF (bacteria): 7.1; BCF (mammal): 3.0.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

: Avoid release to the environment

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of this material and its container to hazardous or special waste collection point.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

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14.1. UN number

UN-No. (ADR)	: 3077
UN-No. (IMDG)	: 3077
UN-No.(IATA)	: 3077
UN-No.(ADN)	: 3077
UN-No. (RID)	: 3077

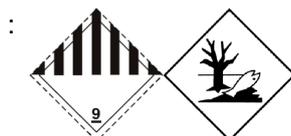
14.2. UN proper shipping name

Proper Shipping Name (ADR)	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Proper Shipping Name (IMDG)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable
Proper Shipping Name (ADN)	: Not applicable
Proper Shipping Name (RID)	: Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	: 9
Hazard labels (ADR)	: 9



IMDG

Transport hazard class(es) (IMDG)	: 9
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IATA

Transport hazard class(es) (IATA)	: 9
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ADN

Transport hazard class(es) (ADN)	: 9
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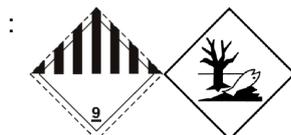
RID

Transport hazard class(es) (RID)	: 9
Danger labels (RID)	: 9

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14.4. Packing group

Packing group (ADR)	: III
Packing group (IMDG)	: Not applicable
Packing group (IATA)	: Not applicable
Packing group (ADN)	: Not applicable
Packing group (RID)	: Not applicable

14.5. Environmental hazards

Dangerous for the environment	: Yes
Marine pollutant	: Yes
Other information	: No supplementary information available

14.6. Special precautions for user

14.6.1. Overland transport

Classification code (ADR)	: M7
Special provisions (ADR)	: 274, 335, 601
Limited quantities (ADR)	: 5kg
Excepted quantities (ADR)	: E1
Vehicle for tank carriage	: AT
Transport category (ADR)	: 3
Hazard identification number (Kemler No.)	: 90
Orange plates	:



Tunnel restriction code (ADR)	: E
EAC code	: 2Z

14.6.2. Transport by sea

14.6.3. Air transport

14.6.4. Inland waterway transport

Carriage prohibited (ADN)	: No
Not subject to ADN	: No

14.6.5. Rail transport

Classification code (RID)	: M7
Carriage prohibited (RID)	: No

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

Not applicable

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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

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

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. REACH Disclaimer:
This information is based on current knowledge. Consistency of data in the SDS with CSR is considered, as far as the information is available at the time of compilation (cfr Revision date and Version number).

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H410	Very toxic to aquatic life with long lasting effects
R22	Harmful if swallowed
R36/38	Irritating to eyes and skin
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
N	Dangerous for the environment
Xi	Irritant
Xn	Harmful

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SDS EU (REACH Annex II) Duchefa

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