



## SAFETY DATA SHEET

# Copper (II) sulfate pentahydrate 99+%, extra pure

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

Trade name:	Copper (II) sulfate pentahydrate 99+%, extra pure
Product no.:	KSU2.1
Other means of identification:	EC No.: 616-477-9 CAS No.: 7758-99-8

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

Relevant identified uses of the substance or mixture:	Laboratory use
Uses advised against:	None known.

### 1.3. Details of the supplier of the safety data sheet

Company and address:	<b>Laboratoriumdiscounter</b> Zandvoortstraat 75 1976BN IJmuiden Netherlands Tel: +31 255 700 210 <a href="http://www.laboratoriumdiscounter.nl/en/">www.laboratoriumdiscounter.nl/en/</a>
E-mail:	<a href="mailto:info@laboratoriumdiscounter.nl">info@laboratoriumdiscounter.nl</a>
Revision:	09/03/2023
SDS Version:	1.0

### 1.4. Emergency telephone number

Contact The National Poisons Information Service (dial 111, 24 h service).  
See section 4 "First aid measures".

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

Acute Tox. 4; H302, Harmful if swallowed.  
Skin Irrit. 2; H315, Causes skin irritation.  
Eye Irrit. 2; H319, Causes serious eye irritation.  
Aquatic Acute 1; H400, Very toxic to aquatic life.  
Aquatic Chronic 1; H410, Very toxic to aquatic life with long lasting effects.

### 2.2. Label elements

Hazard pictogram(s):



Signal word:

Warning

Hazard statement(s):

Harmful if swallowed. (H302)



<b>Safety statement(s):</b>		Causes skin irritation. (H315) Causes serious eye irritation. (H319) Very toxic to aquatic life with long lasting effects. (H410)
<b>General:</b>		If medical advice is needed, have product container or label at hand. (P101) Keep out of reach of children. (P102)
<b>Prevention:</b>		Wash hands thoroughly after handling. (P264) Do not eat, drink or smoke when using this product. (P270) Wear eye protection/protective gloves/protective clothing. (P280)
<b>Response:</b>		IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. (P301+P312) Rinse mouth. (P330)
<b>Storage:</b>		-
<b>Disposal:</b>		Dispose of contents/container in accordance with local regulation. (P501)
<b>Hazardous substances:</b>		Copper (II) sulfate pentahydrate
<b>Additional labelling:</b>		Not applicable.
<b>2.3. Other hazards</b>		
<b>Additional warnings:</b>		This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB. This product does not contain any substances considered to be endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

Product/substance	Identifiers	% w/w	Classification	Note
Copper (II) sulfate pentahydrate	CAS No.: 7758-99-8 EC No.: 616-477-9 UK-REACH: Index No.:	95-100%	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)	

### 3.2. Mixtures

Not applicable. This product is a substance.

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.



## Other information

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## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

#### *General information:*

In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet.

Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

#### *Inhalation:*

Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.

#### *Skin contact:*

IF ON SKIN: Wash with plenty of water and soap.

Remove contaminated clothing and shoes. Ensure to wash exposed skin thoroughly with water and soap. DO NOT use solvents or thinners.

If skin irritation occurs: Get medical advice/attention.

#### *Eye contact:*

Upon irritation of the eye: Remove contact lenses. Flush eyes immediately with plenty of water or isotonic water (20-30 °C) for at least 5 minutes and continue until irritation stops. Make sure to flush under upper and lower eyelids. If irritation continues, contact a doctor. Continue flushing during transport.

#### *Ingestion:*

In the case of ingestion, contact a doctor immediately. If the person is conscious, give them water. DO NOT try to induce vomiting unless this is recommended by a doctor. Hold head facing down to prevent vomit returning mouth and throat. Prevent shock by keeping the injured person warm and calm. Initiate immediate resuscitation if breathing stops. If unconscious, roll the injured person into recovery position. Call an ambulance.

#### *Burns:*

Not applicable.

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

Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

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

If eye irritation persists: Get medical advice/attention.



*Information to medics:*

Bring this safety data sheet or the label from this product.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.

Unsuitable extinguishing media: Waterjets should not be used, since they can spread the fire.

### 5.2. Special hazards arising from the substance or mixture

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.

If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:

Sulphur oxides

### 5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact The National Poisons Information Service (dial 111, 24 h service) in order to obtain further advice.

Hazchem Code: 2Z

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

Avoid direct contact with spilled substances.

### 6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc. In the event of leakage to the surroundings, contact local environmental authorities.

### 6.3. Methods and material for containment and cleaning up

Minor spills are collected with a cloth. Collection and disposal of the material shall be done with minimum creation of dust. Sweep and collect. Shall be contained in suitable and tightly closed disposal containers.

Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

### 6.4. Reference to other sections

See section 13 "Disposal considerations" on handling of waste.

See section 8 "Exposure controls/personal protection" for protective measures.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Smoking, drinking and consumption of food is not allowed in the work area.

See section 8 "Exposure controls/personal protection" for information on personal protection.

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

*Recommended storage material:*

Keep only in original packaging.

*Storage temperature:*

Room temperature 15 to 25°C

*Incompatible materials:*

Strong acids, strong bases, strong oxidizing



agents, and strong reducing agents.

### 7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

No substances are listed in the national list of substances with an occupational exposure limit.

#### DNEL

No data available.

#### PNEC

No data available.

### 8.2. Exposure controls

Control is unnecessary if the product is used as intended.

*General recommendations:*

Smoking, drinking and consumption of food is not allowed in the work area.

*Exposure scenarios:*

There are no exposure scenarios implemented for this product.

*Exposure limits:*

Occupational exposure limits have not been defined for the substances in this product.

*Appropriate technical measures:*

Apply standard precautions during use of the product. Avoid inhalation of gas or dust.

*Hygiene measures:*

Take off contaminated clothing and wash it before reuse.

*Measures to avoid environmental exposure:*


Keep damming materials near the workplace. If possible, collect spillage during work.

### Individual protection measures, such as personal protective equipment


*Generally:*

Use only UKCA marked protective equipment.


*Respiratory Equipment:*

Type	Class	Colour	Standards	
SL	P3	White	EN149	


*Skin protection:*

Recommended	Type/Category	Standards	
Dedicated work clothing should be worn.	-	-	

*Hand protection:*

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards	
Nitrile	0.4	> 480	EN374-2, EN374-3, EN388	

*Eye protection:*

Type	Standards	
Safety glasses with side shields.	EN166	

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES****9.1. Information on basic physical and chemical properties**

<i>Physical state:</i>	Solid
<i>Colour:</i>	Blue
<i>Odour / Odour threshold:</i>	None
<i>pH:</i>	Testing not relevant or not possible due to the nature of the product.
<i>pH in solution:</i>	3,5 – 4,5 (5%)
<i>Density (g/cm<sup>3</sup>):</i>	2.28
<i>Kinematic viscosity:</i>	Does not apply to solids.
<i>Particle characteristics:</i>	Testing not relevant or not possible due to the nature of the product.

**Phase changes**

<i>Melting point/Freezing point (°C):</i>	30 – 110
<i>Softening point/range (waxes and pastes) (°C):</i>	Does not apply to solids.
<i>Boiling point (°C):</i>	Does not apply to solids.
<i>Vapour pressure:</i>	Testing not relevant or not possible due to the nature of the product.
<i>Relative vapour density:</i>	Does not apply to solids.
<i>Decomposition temperature (°C):</i>	>30 °C

**Data on fire and explosion hazards**

<i>Flash point (°C):</i>	Does not apply to solids.
<i>Flammability (°C):</i>	Testing not relevant or not possible due to the nature of the product.
<i>Auto-ignition temperature (°C):</i>	Testing not relevant or not possible due to the nature of the product.
<i>Lower and upper explosion limit (% v/v):</i>	Does not apply to solids.

**Solubility**

<i>Solubility in water:</i>	317 g /l @ 20 °C
<i>n-octanol/water coefficient:</i>	Testing not relevant or not possible due to the nature of the product.
<i>Solubility in fat (g/L):</i>	Testing not relevant or not possible due to the nature of the product.

**9.2. Other information**

<i>Other physical and chemical parameters:</i>	No data available.
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## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

No data available.

### 10.2. Chemical stability

The product is stable under the conditions, noted in section 7 "Handling and storage".

### 10.3. Possibility of hazardous reactions

None known.

### 10.4. Conditions to avoid

None known.

### 10.5. Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

### 10.6. Hazardous decomposition products

The product is not degraded when used as specified in section 1.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 as retained and amended in UK law

#### Acute toxicity

Harmful if swallowed.

#### Skin corrosion/irritation

Causes skin irritation.

#### Serious eye damage/irritation

Causes serious eye irritation.

#### Respiratory sensitisation

Based on available data, the classification criteria are not met.

#### Skin sensitisation

Based on available data, the classification criteria are not met.

#### Germ cell mutagenicity

Based on available data, the classification criteria are not met.

#### Carcinogenicity

Based on available data, the classification criteria are not met.

#### Reproductive toxicity

Based on available data, the classification criteria are not met.

#### STOT-single exposure

Based on available data, the classification criteria are not met.

#### STOT-repeated exposure

Based on available data, the classification criteria are not met.

#### Aspiration hazard

Based on available data, the classification criteria are not met.

### 11.2. Information on other hazards

#### Long term effects



Compiled in accordance with REACH Regulation (EC) No 1907/2006, as retained and amended in UK law

Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

**Endocrine disrupting properties**

Not applicable.

**Other information**

None known.

## SECTION 12: ECOLOGICAL INFORMATION

**12.1. Toxicity**

No data available.

**12.2. Persistence and degradability**

No data available.

**12.3. Bioaccumulative potential**

No data available.

**12.4. Mobility in soil**

No data available.

**12.5. Results of PBT and vPvB assessment**

This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.

**12.6. Endocrine disrupting properties**

Not applicable.

**12.7. Other adverse effects**

This product contains substances that are toxic to the environment. May result in adverse effects to aquatic organisms.

This product contains substances, which may cause adverse long-term effects to the aquatic environment.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods**

Product is covered by the regulations on hazardous waste.

HP 4 - Irritant (skin irritation and eye damage)

HP 6 - Acute toxicity

HP 14 - Ecotoxic

Dispose of contents/container to an approved waste disposal plant.

Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law.

**EWC code**

Not applicable.

**Specific labelling**







Not applicable.

**Contaminated packing**

Packaging containing residues of the product must be disposed of similarly to the product.



**SECTION 14: TRANSPORT INFORMATION**

	<b>14.1 UN / ID</b>	<b>14.2 UN proper shipping name</b>	<b>14.3 Hazard class(es)</b>	<b>14.4 PG*</b>	<b>14.5 Env**</b>	<b>Other information:</b>
ADR	UN3077	ENVIRONMENTAL LY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	Class: 9 Labels: 9 Classification code: M7  	III	Yes	Limited quantities: 5 kg Tunnel restriction code: (-) See below for additional information.
IMDG	UN3077	ENVIRONMENTAL LY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	Class: 9 Labels: 9 Classification code: M7  	III	Yes	Limited quantities: 5 kg EmS: F-A S-F See below for additional information.
IATA	UN3077	ENVIRONMENTAL LY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	Class: 9 Labels: 9 Classification code: M7  	III	Yes	See below for additional information.

\* Packing group

\*\* Environmental hazards

**Additional information**

These substances when carried in single or combination packaging's containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids, are not subject to any other provisions of ADR/IMDG/IATA provided the packaging's meet the general provisions of 4.1.1.1, 4.1.1.2, 4.1.1.4 - 4.1.1.8 (ADR, IMDG) / 5.0.2.4.1, 5.0.2.6.1.1, 5.0.2.8 (IATA).

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ADR / See Table A, Section 3.2.1 for any information on special provisions, requirements, or warnings in connection with transport. See section 5.4.3, for instructions in writing regarding mitigation of damages in relation to incidents or accidents during transport.

IMDG / See section 3.2.1, for any information on special provisions, requirements, or warnings in connection with transport.



Compiled in accordance with REACH Regulation (EC) No 1907/2006, as retained and amended in UK law

IATA / See Table 4.2 for any information on special provisions, requirements, or warnings in connection with transport.

This product is within scope of the regulations of transport of dangerous goods.

Hazchem Code: 2Z

#### 14.6. Special precautions for user

Not applicable.

#### 14.7. Maritime transport in bulk according to IMO instruments

No data available.

## SECTION 15: REGULATORY INFORMATION

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

*Restrictions for application:*

No special.

*Demands for specific education:*

No specific requirements.

*SEVESO - Categories / dangerous substances:*

E1 - ENVIRONMENTAL HAZARDS, Qualifying quantity (lower-tier): 100 tonnes / (upper-tier): 200 tonnes

*Additional information:*

Tactile warning.

*Sources:*

Control of Major Accident Hazards (COMAH) Regulations 2015.

Regulation (EU) No 1357/2014 of 18

December 2014 on waste as retained and amended in UK law.

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP) as retained and amended in UK law.

Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as retained and amended in UK law.

### 15.2. Chemical safety assessment

No

## SECTION 16: OTHER INFORMATION

### Full text of H-phrases as mentioned in section 3

H302, Harmful if swallowed.

H315, Causes skin irritation.

H319, Causes serious eye irritation.

H400, Very toxic to aquatic life.

H410, Very toxic to aquatic life with long lasting effects.

### Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road



ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
CAS = Chemical Abstracts Service  
CE = Conformité Européenne  
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
CSA = Chemical Safety Assessment  
CSR = Chemical Safety Report  
DMEL = Derived Minimal Effect Level  
DNEL = Derived No Effect Level  
EINECS = European Inventory of Existing Commercial chemical Substances  
ES = Exposure Scenario  
EUH statement = CLP-specific Hazard statement  
EWC = European Waste Catalogue  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IARC = International Agency for Research on Cancer (IARC)  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
OECD = Organisation for Economic Co-operation and Development  
PBT = Persistent, Bioaccumulative and Toxic  
PNEC = Predicted No Effect Concentration  
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
RRN = REACH Registration Number  
SCL = A specific concentration limit  
SVHC = Substances of Very High Concern  
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure  
STOT-SE = Specific Target Organ Toxicity - Single Exposure  
TWA = Time weighted average  
UN = United Nations  
UVBC = Unknown or variable composition, complex reaction products or of biological materials  
VOC = Volatile Organic Compound  
vPvB = Very Persistent and Very Bioaccumulative

### Additional information

The classification of the substance/mixture in regard of health hazards are in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.

The classification of the substance/mixture in regard of environmental hazards are in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.

### The safety data sheet is validated by

Chris

### Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a blue triangle.

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

It is recommended to hand over this safety data sheet to the actual user of the product.

Information in this safety data sheet cannot be used as a product specification.

Country-language: GB-en