



HEMIJSKA INDUSTRIJA "ZUPA"

D.O.O. - KRUSEVAC

Sandora Petefija bb, 37000 Krusevac, Srbija

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HEMIJSKA INDUSTRIJA  
KRUSEVAC – S R B I J A

## MATERIAL SAFETY DATA SHEET

### COPPER (II) SULFATE PENTAHYDRATE

In accordance with Regulation (EU) 2015/830

Issuing date: 5.07.2011.

Date of previous version: 27.11.2017.

Version no. 5

#### **Section 1. Identification of the substance/mixture and of the company/undertaking**

##### **1.1. Product identifier**

#### **Copper (II) Sulfate Pentahydrate**

Molecular formula:  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$

CAS no:

7758-99-8

EC no:

231-847-6

EC-index no:

029-004-00-0

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

Technical chemical, agent for plant protection, preventive fungicide, additive to livestock feed, used in mining.

##### **1.3. Details of the supplier**

Producer

H.I. "ŽUPA" d.o.o

Address:

Šandora Petefija bb, 37000 Kruševac, Srbija

Tel./ Fax

+381 (0)37 424-476

E-mail

office@hizupa.rs

##### **1.4. Emergency telephone number**

Poison Control Center-VMA tel: (+381) 11. 36 08 440 00-24h;

#### **Section 2. Hazards identification**

##### **2.1 Classification of the substance or mixture**

Classification according to the Rulebook on classification, packaging, labelling and advertising of chemical and certain article ("Official Gazette of the RS no. 52/2017)-CLP/GHS-UN

Acute toxicity (oral) Category 4, H302

Skin corrosion / irritation Category 2, H315

Serious eye damage / irritation Category 2, H319

Hazard to aquatic environment Categories Acute 1, H400



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Hazardous to the aquatic environment Categories Chronic1, H410

## 2.2 Label elements

Classification according to the Rulebook on classification, packaging, labelling and advertising of chemical and certain article (Official Gazzette of the RS no. 105/2013) – CLP/GHS-UN

GHS pictograms:



GHS07



GHS09

Signal word: Warning

### Hazard statements:

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

#### Prevention

**P270** Do not eat, drink or smoke when using this product.

**P273** Avoid release to the environment.

**P280** Wear protective gloves/protective clothing/eye protection/face protection.

#### Response

**P301+P312** IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician if you feel unwell..

**P302+P352** IF ON SKIN: Wash with plenty of soap and water

**P305 + P351 + P338** – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

**P332+P313** If skin irritation occurs: Get medical advice/attention.

#### Disposal

**P501** Dispose of contents/container in accordance with local regulation

## 2.3. Other hazards

No other hazards known

**Section 3****Composition/ Information on ingredients****3.1 Substances****Hazardous components**

Hazard statements according to regulation (EC) No. 1272/2008

Chemical Name	CAS no	EC no	Classification according to EC 1272/2008 (CLP/GHS)	Content (%)
Copper(II) sulphate pentahydrate	7758-99-8	231-847-6	Acute tox. (oral) category 4, H302 Skin corrosion / irritation Category 2, H315 Serious eye damage / irritation Category 2, H319 Hazard to aquatic environment Categories Acute 1, H400 Hazardous to the aquatic environment categories Chronic1, H410	min. 98

**Section 4.****First aid measures****4.1 Description of first aid measures**

- Skin contact:** Remove contaminated clothing and shoes immediately and dispose of safely. Rinse the skin with cold water. When symptoms develop and persist seek medical advice. Wash contaminated clothing before reuse.
- Eye contact:** Check for contact lenses and remove them, if present. Rinse the eyes thoroughly with ample quantity of clean water for at least 15 minutes. Immediately call a doctor.
- After ingestion:** Rinse mouth with water. Never put anything in mouth if person is in the unconscious state. Do not induce vomiting. Seek medical assistance..
- After inhalation:** Check for contact lenses and remove them, if present. Rinse the eyes thoroughly with ample quantity of clean water for at least 15 minutes. Immediately call a doctor

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

Irritation to skin and eyes. After oral intake leads to digestive disturbances, metallic taste, nausea and vomiting. Symptoms: vomiting, pain in the mouth, esophagus, stomach, diarrhea, stomach cramps, rapid pulse.

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

Show safety data sheet or label to a physician.

**Section 5.****Firefighting measures**



### **5.1 Extinguishing media**

Do not use water jets. Foam, dry powder, Carbon dioxide.

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

Combustion products: oxides of sulfur.

### **5.3. Advice for firefighters**

Fire fighting teams exposed to smoke or fumes must wear protective suit and self-contained breathing apparatus.

## **Section 6.**

### ***Accidental release measures***

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

Protect adequately all the body parts. The air passages must be protected (suitable filter mask) if the material is in microcrystals form (higher probability that the product forms dust). Keep away unauthorised people, children and animals

#### **6.2 Environmental precautions**

Use sand or soil to contain the loss of product. Avoid the possibility that significant quantities of product can enter water courses or sewer; if this should happen advise immediately the local competent authority.

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

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**

See also Section 8 and Section 13.

## **Section 7.**

### ***Handling and storage***

#### **7.1 Precautions for safe handling**

Wash hands after each handling. Wash contaminated clothing before reuse. Avoid contact with skin. Do not breathe fumes or vapour of the product. Do not empty into drains or environment. When using product, do not smoke, eat or drink.

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

Keep the product in a tightly closed vessels/ containers, in a cool, dry place with good ventilation. Storage should not be exposed to the atmospheric influences. Keep away from food, drink and animal feeding stuffs. Keep locked away from children.



### 7.3 . Specific end use(s)

Not known.

## Section 8.

### Exposure controls/Personal protection

#### 8.1 Control parameters

/

#### 8.2 Exposure controls and personal protective measures

Handle in accordance with good industrial hygiene and general safety practice.

Respiratory protection: In the conditions of insufficient ventilation, wear adequate respiratory protection: type P1 gas filter, particle filter respirator (EN 143)

Hand protection: Protective gloves resistant to chemicals (EN 374)

Eye/face protection: Safety goggles

Skin protection: Personal safety equipment consisting of: safety gloves, safety goggles, adequate clothing.

## Section 9.

### Physical and chemical properties

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

Appearance	Solid state, blue crystals
Odour	Odourless
Color	Blue
Odour threshold	N/a
pH value	3,5-4,5(5% solution)
Melting point/ freezing point	110°C(at this temperature, loses 4 H2O)
Boiling point/boiling range	N/a
Flash point	N/a
Evaporation rate	N/a
Flammability	Not flammable
Upper/lower limit of flammability/explosiveness	N/a
Vapour pressure	N/a
Vapour density	N/a
Relative density	2,285 g/cm <sup>3</sup> (pentahydrate); 3,60g/cm <sup>3</sup> (anhydrous)
Solubility in water	Soluble in water
Solubility in organic solvents	Not soluble
Partition coefficient: n-octanol/water (log Kow)	N/a
Self-ignition temperature	N/a
Decomposition temperature	340-650°C
Viscosity	N/a
Explosive properties	N/a
Oxidising properties	N/a



## 9.2 Ostali podaci

None

## Section 10.

### Stability and reactivity

#### 10.1 . Reactivity

Reacts violently with (strong) reducers.

#### 10.2 Chemical stability

Stable under recommended conditions of storage and use.

#### 10.3 Possibility of hazardous reactions

Data not available.

#### 10.4 Conditions to avoid

Direct sunlight. Extremely high or temperatures.

#### 10.5 Incompatible materials

Strong acids. Strong bases.

#### 10.6 Hazardous decomposition products

Sulfur compounds.

## Section 11

### Toxicological information

#### 11.1 Information on toxicological effects

##### Acute toxicity:

LD50 orally, rat(both sexes) 481 mg/kg  
(OECD Guideline 401)  
LD50 dermal, rat(both sexes) >2000 mg/kg  
(OECD Guideline 402)  
LC50 inh.(4h), rat(both sexes) technically  
not feasible

##### Corrosion/irritation of skin

Skin irritation/ corrosion, rabbit: irritating  
(OECD Guideline 404)  
Eye irritation, rabbit: irritating (OECD  
Guideline 405)  
This substance is classified as Skin Irrit. 2  
and Eye Irrit 2.

##### Heavy damage to eye/irritation of eye

##### Sensitization of respiratory system or skin

Intermediate to strong irritant to eyes.  
Does not cause sensitisation of skin or  
respiratory system.  
Maximisation Test - negative (OECD  
Guideline 406)

##### Mutagenicity

##### Carcinogenicity

No mutagenic or genotoxic.  
Does not cause tumors.



Reproductive toxicity

Does not cause reproductive toxicity.

Chronic toxicity

Specific target organ toxicity-repeated exposure (STOT RE):

No information that meets the criteria for this class of hazard.

Specific target organ toxicity-single exposure (STOT SE):

No information that meets the criteria for this class of hazard.

Aspiration hazard

No information that meets the criteria for this class of hazard.

## Section 12

### Ecological information

12.1. Toxicity to aquatic organisms

LC<sub>50</sub> fish (*Lepomis macrochirus*) (96h): 0,66- 3,27 mg/L  
EC<sub>50</sub> Daphnia (48h): 0,24 mg/L

12.2. Persistence and degradability

Not applicable for inorganic substances

12.3. Bioaccumulative potential

No information available

12.4. Mobility in soil

No information available

12.5. Results of PBT and vPvB assessment

Does not meet criteria to be classified as PBT and vPvB substance

12.6. Other adverse effects

Very toxic to aquatic life with long lasting effects

## Section 13.

### Disposal considerations

13.1. Waste treatment methods

Waste/ used product or unused product/ surplus product must be handed over to the persons authorized for waste collection and treatment in accordance with local, regional, state regulations and law on waste. Disposal with normal waste is not allowed. Do not store in the open. Empty containers contain residues and may be dangerous. Do not apply pressure, do not cut, do not weld, do not solder, do not drill and do not expose such containers to heat. Disposal of content/ containers in accordance with Law on waste management of Republic of Serbia

## Section 14

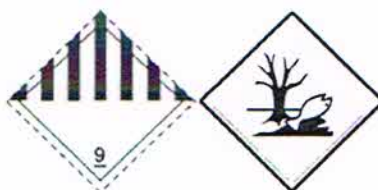
### Transport information

14.1 UN no

UN 3077

14.2 UN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE,  
SOLID, N.O.S.  
(Copper sulphate pentahydrate)



14.3. Transport hazard class(es)

9

14.4 Packing group

III

14.5. Environmental hazards

This substance is classified as Aquatic Acute 1



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14.6. Special precautions for user

14.7. Transport in bulk

and Aquatic Chronic 1

No information available.

No data available.

## Section 15

### Regulatory information

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

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation, Substances of very high concern: NOT LISTED

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances,

mixtures and articles: NOT LISTED

Classification according to the Rulebook on classification, packaging, labelling and advertising of chemical and certain article ("Official Gazzette of the RS no. 105/2013 and 26.05.17.)-CLP/GHS-UN Rulebook on preventive measures for safe and healthy work when exposed to chemical substances (Official Gazzette of the RS no. 106/09 and 117/2017).

#### 15.2. Chemical safety assessment

In accordance with Regulation (EC) No. 1907/2006 (REACH) Article 14, a Chemical Safety Assessment has been carried out for this substance

## Section 16

### Other information

#### 16.1 Additions, Deletions, Revisions

Version 2.0 all sections aligned with the REACH Chemical Safety Report.

This safety data sheet is drawn up to comply with the requirements of Regulation (EC) No. 1907/2006 (REACH),

as amended by Annex II to Commission Regulation (EU) No. 2015/830 of 28 May 2015.

#### 16.2 Key or legend to abbreviations and acronyms

- EC – European Commission
- EC50 - Concentration of the substance that causes 50 % reduction of a certain effect on test organisms
- LC50 - Concentration of the substance that causes 50 % mortality of the test population
- LD50 - Lethal dose of the substance that causes 50 % mortality of the test population
- RS – Republic of Serbia
- PBT/vPvB - Persistent, bioaccumulative and toxic/ very persistent and very bioaccumulative
- OECD – Organisation for Economic Co-operation and Development
- REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
- UN – United Nations



- N/a No data available
- CLP – Classification, Labelling, Packaging
- GHS Globaly Harminised System

### 16.3 Key literature references and sources for data

REACH Chemical Safety Report Part B, copper sulphate.

All referenced studies within this safety data sheet can be found from the original Chemical Safety Report.

This substance has a harmonised classification according to Annex VI to Regulation (EC) No. 1272/2008 (CLP)

Europe-wide emergency number: 112

-MARPOL. The International Convention for the Prevention of Pollution of Ships, 1973 (MARPOL 73/78)

-IBC code- International Building Codes

### 16.4 Classification procedure

#### Hazard statements:

H302 Harmful if swallowed (Acute toxicity (oral) category 4)

H315 Causes skin irritation (Corrosive damage / skin irritation Category 2)

H319 Causes severe eye irritation (severe eye damage / eye irritation Category 2)

H400 Very toxic to the living world in the water (Aquatic Danger, Category Acute 1)

H410 Very toxic to aquatic life with long lasting effects (Hazardous to the aquatic environment categories Chronic1)

#### Precautionary Statements

##### Prevention

- P270** Do not eat, drink or smoke when using this product.
- P273** Avoid release to the environment.
- P280** Wear protective gloves/protective clothing/eye protection/face protection.

##### Response

- P301+P312** IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician if you feel unwell..
- P302+P352** IF ON SKIN: Wash with plenty of soap and water
- P305 + P351 + P338** – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
- P332+P313** If skin irritation occurs: Get medical advice/attention.

##### Disposal

- P501** Dispose of contents/container in accordance with local regulation

**DISCLAIMER OF LIABILITY:** The information in this SDS was obtained from recent Chemical Safety Report of this substance from REACH registration. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss,



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damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

**End of the Safety Data Sheet**