

Safety Data Sheet

According To Regulation (EC) No 1907/2006 (REACH)

COPPER SULPHATE

Version: 1.0
Form No: 579001

Preparation Date : 6/22/2018
Revision Date: 6/22/2018

1. IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY /UNDERTAKING

1.1 Product Identifier

Product Name	COPPER SULPHATE
SDS No	579001
Description	Substance - Copper (II) sulfate pentahydrate
CAS No	7758-98-7
EINECs No	231-847-6
Molecular Formula	CuSO ₄ *5H ₂ O
Molecular Weight	249,68 g/mol
Structural Formula	$\begin{array}{c} \text{SO}_3^- \\ \\ \text{Cu}^{2+} \cdot 5\text{H}_2\text{O} \\ \\ \text{O}^- \end{array}$

1.2 Relevant Identified Uses Of The Product And Uses Advised Against

Relevant Identified Uses	Chemical / industrial use
Uses Advised Against	See chapter 16 for a general overview

1.3 Details Of The Supplier Of The Safety Data Sheet

Supplier (Manufacturer)	CHEMIOLA KIMYA SAN TIC . LTD . ŞTİ www.chemiola.com
Address – Factory	17 Eylül Mah. Atatürk Caddesi No 236 Bandırma BALIKESİR
Telephone	+90 266 715 39 30
Fax	+ 90 541 668 50 67

1.4 Information Providing Authority About Safety Data Sheet

	Burçak KOKLEN - CHEMIOLA TEAM
E -mail	bk@chemiola.com

1.5 Emergency Telephone Number

Company Emergency	+90 266 715 39 30
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2. HAZARDS IDENTIFICATION

2.1 Classification Of The Product

2.1.1 Classification According to Regulation (EC) No 1272/2008	<p>Acute toxicity (oral), Category 4, H302 Skin corrosion/irritation Category 2 , H315 Serious eye damage/eye irritation Category 2, H319 Aquatic acute Category 1, H400 Aquatic chronic Category 1, H4 10</p>
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2.2 Label elements

2.2.1. Labeling According to Regulation (EC) No 1272/2008 [CLP ¹ /GHS ²]	
Product Identifier	


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Hazard Component for Labeling	
Copper Sulphate Pentahydrate	
Hazard Pictograms	
	
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	
General	
-	
Prevention	
P273	Avoid release to the environment.
Response	
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+P352	Wash with plenty of water in contact with skin
P305+P351+P338	In contact with eyes rinse cautiously with water for several minutes.Remove contact lenses if present and easy to do.Continue rinsing.
Storage	
-	
Disposal	
P501	Dispose of contents/container in accordance with local /regional/ national/ international regulation .
Supplemental Hazard Information (EU) Statements	
No data available.	
2.2.2. Additional Labeling	
Not Applicable	
2.3 Hazard Identification	
2.3.1. Skin Contact	
Causes skin irritation	
2.3.2. Eye Contact	
Causes serious eye irritation	
2.3.3. Ingestion	
Harmful if swallowed. Nausea, vomiting and possible burns can cause serious gastrointestinal system irritation. Large amounts of copper salts can cause bloody stools and vomiting, low blood	

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	pressure, jaundice and coma. Ingestion of copper compounds may cause toxic effects in the kidney and liver.
2.3.4.	Inhalation May be harmful on respiratory tract.
2.3.5.	Long term effects No data available
2.3.6.	Adverse Environmental Effects No data available
2.4.	Additional Information None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Description Of The Substance

NAME	EI NECS NO	CAS NO.	CONTENT (%)	CLASSIFICATION
				SEA (CLP) ³
Copper Sulphate Pentahydrate	231-847-6	7758-98-7	~100	Acute toxicity (oral), Category 4, H302 Skin corrosion/irritation Category 2, H315 Serious eye damage/eye irritation Category 2, H319 Aquatic acute Category 1, H400 Aquatic chronic Category 1, H410

3.2 Additional information

- None

4. FIRST AID MEASURES

4.1 Description of first aid measures

4.1.1 General information

- When in doubt or if symptoms are observed, get medical advice.
- In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

4.1.2 Following inhalation

- Supply fresh air.
- Rinse mouth and nose with water.
- If symptoms persist, call a physician.

4.1.3 Following skin contact

- Wash off with plenty of water and soap.
- Remove and wash contaminated clothing before reuse.
- If symptoms persist, call a physician.

4.1.4 Following eye contact

- Rinse immediately with plenty of lukewarm water, also under the eyelids, for several minutes.
- Consult a physician.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.



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4.1.5 Following ingestion

- Call a physician immediately.
- Do NOT induce vomiting.
- Never give anything by mouth to an unconscious person.

4.1.6 Self-protection of the first aider

- Not applicable

4.1.7 Notes for the doctor

- Unlikely to be required but if necessary treat symptomatically

5. FIRE -FIGHTING MEASURES

5.1 General Information and Flammable Properties

Products of combustion may include, and are not limited to: oxides of carbon.
Use firefighting procedures suitable for surrounding area.
If safe to do so, remove containers from path of fire.

5.2 Extinguishing media:

Foam.
Dry chemical powder.
Carbon dioxide
Water spray or fog - Large fires only

5.3 Unsuitable extinguishing media

None known.

5.4 Special hazards arising from the product

None known.

5.5 Advice for fire -fighters

Keep upwind of fire. Wear full firefighting turn -out gear (full Bunker gear) and respiratory protection (SCBA).
Fire fighters must wear fire resistant personnel protective equipment.

5.6 Additional information

- Cool endangered containers with water in case of fire.
- Do not allow the quenching water into sewage systems

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

- Refer to protective measures listed in section 7 and 8.
- Wear protective suit and boots.
- - If aerosols or mist are formed, use half mask with combination filter B/P2.

6.2 Environmental precautions

- Cover the drains to prevent the product from entering the environment.
- If the product contaminates rivers and lakes or drains inform respective authorities.
- Restrict the spread of the spillage by using inert absorbent material (sand, gravel).

6.3 Methods and material for containment and cleaning up

6.3.1 For containment

- Use appropriate Personal Protective Equipment (PPE).
- Take up contaminated material and pass on for further processing.

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	<ul style="list-style-type: none"> Contain for disposal according to local / national regulations.
6.3.2	<p>For cleaning up</p> <ul style="list-style-type: none"> Control personal contact by using protective equipment. Avoid dust formation. Avoid breathing dust. Make sure you have good ventilation. Avoid direct contact with skin, eyes and clothing. Place in a suitable, labeled container for waste disposal. Dispose of in accordance with legal regulations and place in a suitable, labeled container for waste disposal Collect recoverable product into labeled containers for recycling Remove larger spills using a vacuum truck. Must be disposed of in accordance with local and national regulations.
6.3.3	<p>Other information</p> <ul style="list-style-type: none"> Dispose of waste material according to local, state and federal regulations.
6.4	<p>Reference to other sections</p> <ul style="list-style-type: none"> Dispose of contaminated material as waste in accordance with section 13. See Section 13.

7. HANDLING AND STORAGE

7.1.1	<p>Precautions for safe handling</p> <p>Keep away from sources of ignition.</p> <ul style="list-style-type: none"> No smoking. <p>Do not spray on an open flame or other ignition source.</p> <p>Pressurized container: Do not pierce or burn, even after use. Avoid contact with skin and eyes.</p> <p>Do not swallow.</p> <p>Avoid breathing dust, fume, gas, mist, vapor, spray.</p> <p>When using do not eat, drink or smoke.</p> <p>Use only outdoors or in a well-ventilated area.</p>
7.1.2	<p>Protective measures</p> <p>Personal preventions</p> <ul style="list-style-type: none"> Use in a well-ventilated area Use good occupational work practice. <p>Fire preventions</p> <ul style="list-style-type: none"> See section 5. <p>Environmental precautions:</p> <ul style="list-style-type: none"> Dispose of waste material according to local, state and federal regulations.
7.1.3	<p>Advice on general occupational hygiene</p> <ul style="list-style-type: none"> Use good occupational work practice. Comply with the health and safety at work laws. Remove contaminated dothing and protective equipment before entering eating areas.
7.2	<p>Conditions for safe storage, including any incompatibilities</p> <ul style="list-style-type: none"> Keep container tightly closed in a cool, dry, well-ventilated place. Protect it from moisture. Keep away from food, beverages and feedstuffs. German storage class (TRGS 510): Non-combustible solids.

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- Check all containers are clearly labeled and free from leaks.
- Store in original containers.
- Keep containers securely sealed when not in use
- Avoid contact with incompatible materials
- Avoid physical damage to containers.

STORAGE INCOMPATIBILITY

- Keep away from incompatible products.
- Avoid freezing.
- Avoid high temperatures.

7.1 Advice on common storage

- See also instructions on the label.
- Store in a cool, dry, well-ventilated area.
- Keep away from food, drink and animal feeding stuffs.
- Store away from incompatible materials and foodstuff containers.
- Protect containers against physical damage.

7.2 Specific precautions on storage

- Observe the national and local regulations concerning handling and storage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Preventive industrial and medical examinations must be carried out according to the application area.
Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

8.1.1 Occupational exposure limits

- ACGIH TLV
American Government Industrial Hygienists Conference - Threshold Limit Value: TWA: 1 mg / m³
NIOSH IDLH
- National Institute for Occupational Safety and Health - Immediate hazard to human health and wellbeing IDLH: 100 mg / m³ TWA: 1 mg / m³

8.2 Exposure controls

- Adequate ventilation should be used during processing

8.2.1 Appropriate engineering controls:

- See Section 7

8.2.2 Personal protection equipment

8.2.2.1 Eye / Face protection:

- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
- In the event of chemical exposure, safety goggles must be used and remove contact lens as soon as practicable
- Wear chemical goggles; face shield (if splashing is possible).



8.2.2.2 Skin protection

Hand protection

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- Wear suitable gloves if prolonged skin contact is likely.
- Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non -perfumed moisturizer is recommended
- Impervious gloves are recommended.



Body protection

- Work clothing sufficient to prevent all skin contact should be worn, such as coveralls and long sleeves.

Other protection

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

8.2.2.3 Respiratory protection

In case of insufficient ventilation use licensed respiratory equipment.
When exposures exceed the PEL, use NIOSH/MSHA approved respirator in accordance with EU Respiratory

- Respirator Recommendations
No further data

8.2.3 Environmental exposure controls

- Legislation for the protection of the environment must be met in full

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Appearance

Form/Physical state	Crystalline particulate powder
Color	Light blue -white particles
Odor	Odorless
	Value
pH (5% in water solution) @ (20 °C)	3,5-4,5
Freezing point/range (°C)	No data available.
Boiling point/range (°C)101,3 kPa	No data available.
Melting point (°C)	200
Flash Point (°C)closed cup	No data available.
Ignition temperature (°C)	No data available.
Relative density	No data available.
Evaporation Pressure hPa @ 25 ° C	9,7
Viscosity (cP)	No data available.
Partition coefficient n -Octanol/Water (log Po/w)	No data available.
Explosive Property	No data available.
Oxidation Property	No data available.
Solubility	Soluble

Note: The above features were determined according to prescribed methods at the Classification, Packaging and Labeling of Hazardous. Substances Regulation Section A-3 or a method comparable to the other.

10. STABILITY AND REACTIVITY

10.1 Reactivity

10.2 Chemical stability

- Stable under recommended storage and handling conditions. (See section 7.)

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10.3 Possibility of hazardous reactions

- No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid:

- High temperatures, dust generation, exposure to moist air or water.

10.5 Incompatible materials:

- Powdered metals, strong bases, magnesium, metals, alkali metals.

10.6 Hazardous decomposition products:

- May include, and are not limited to: oxides of carbon.

10.7 Hazardous polymerization:

- Hazardous polymerization will not occur .

11. TOXICOLOGICAL INFORMATION

11.1 General Information

- Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

11.2 Acute toxicity

Substance or Compound [CAS #] CONTENT (%), LD50 Oral , LD50 dermal (With skin), LC50 (Inh.)
Copper sulphate [CAS # 7758 -98-7] ~ 100, 481 mg / kg (Rat), > 1000 mg / kg (Rat) , -

11.3 Skin corrosion/irritation and Eye damage/irritation:

In normal conditions no irritation expected on skin contact.

11.4 CMR effects (Carcinogenity) :

- IARC
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

11.5 CMR effects (Mutagenicity and Toxicity for reproduction) :

- No data was available concerning mutagenicity and reproductive toxicity

11.6 Other Toxicological Effects:

Allergic Effects	No data available
Effects on Repeated Doses Chronic Exposures	No data available
Sensitization	No data available
Developmental Toxicity (Teratogenicity)	No data available
Fertility	No data available

11.7 STOT -single/repeated exposures:

STOT -single exposure	No data available
STOT -repeated exposure	No data available

11.8 Symptoms related to the physical, chemical and toxicological characteristics:

In case of inhalation	May be harmful on respiratory tract.
In case of skin contact	Harmful in contact with skin. Symptoms may include redness, edema, drying, defatting and cracking of the skin.
In case of eye contact	Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

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In case of ingestion	Harmful if swallowed. May cause stomach distress, nausea or vomiting.
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11.9 Additional Toxicological Information:

The special effects to health are considered by taking into account the information in section 3.

12. ECOLOGICAL INFORMATION

12.1 Eco toxicity:

- Persistent, very toxic effect in the aquatic environment.
- Acute Fish Toxicity (LC50 96 h): 1 -2.5 mg / l
- Acute Daphnia and Other Aquatic Invertebrates Toxicity (EC50 48 h): 0.024 mg / l

12.2 Photo degradation

- No data available.

12.3 Effects on Waste Water Treatment Plants

- Not determined.

12.4 Mobility

Gas/Pressurized Liquid.

Water threat class

No data available

Clean Water Impact

No data available

Known or predicted environmental distribution

The substance can be filtered onto the soil. It dissolves in wet conditions leaving elemental copper ions in trace amounts

12.5 Results of PBT and vPvB assessment

Biotic	
Ready biodegradability:	No data available
Abiotic:	
Hydrolysis as a function of pH:	No data available
Photolysis:	No data available
Atmospheric oxidation:	No data available

- Persistence and degradability:

Decomposition Potential of the products

No data available

The half-life of degradation

No data available

Potential degradation of product content in the evaluation of wastewater treatment plants

No data available

- Bioaccumulation Potential :

Biological environment (biota) accumulation potential

No experimental data describing the bioaccumulation potential for the product and ingredients.

Potential - nutrients pass through

No data available

Reference Values - Log Kow , Sw and BCF

-3.7

12.6 Additional information

Aquatic toxicity: No data available.

See the sections 6, 7, 13, 14 and 15.

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13. DISPOSAL CONSIDERATIONS

13.1 Product / Packaging disposal

This material must be disposed of in accordance with all local, state, provincial, and federal regulations.
The generation of waste should be avoided or minimized wherever possible.
Contact waste disposal services.

13.2 Contaminated packaging

If there is product residue in the emptied container, follow directions for handling on the container's label.
Contaminated packaging must be emptied of all residues and can be recycled following appropriate cleaning.

13.3 Disposal Methods





Follow all applicable local laws, rules and regulations regarding the proper disposal of this material.
If this product has been altered or contaminated with other hazardous materials, appropriate waste analysis may be necessary to determine proper method for disposal.

13.4 European Waste Catalogue

The final classification has to be done together with the local waste disposal company / authority.

14. TRANSPORT INFORMATION

UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(COPPER SULPHATE)

	ADR ⁴ /RID ⁵	ADNR	IMDG ⁶	ICAO ⁷ /IATA ⁸
TRANSPORTATION	Road	River	Marine	Airways
PROPER SHIPPING NAME	UN 3077 Environmentally hazardous substance, solid, n.o.s. (copper sulphate)			
UN/ID No.	3077	3077	3077	3077
SYMBOL				
CLASS	9	9	9	9
PACKAGING GROUP	III	III	III	III
LABELLING NO	9	9	9	9
CLASSIFICATION CODE	M7			
HAZARD NO (HIN NO)	90			
EmS			F-A;S-F	
MARINE Pollutant			YES	
Road Transport Notes: This product is regulated as a hazardous material.				

15. REGULATORY INFORMATION

15.1 Safety, Health And Environmental Regulations / Legislation Specific For The Substance

No data available

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15.2 Chemical Safety Assessment

No data available

15.2.1 HAZARD

Acute toxicity (oral), Category 4, H302
Skin corrosi on/irritation Category 2, H315
Serious eye damage/eye irritation Category 2, H319
Aquatic acute Category 1, H400
Aquatic chronic Category 1, H410

15.3 INTERNATIONAL REGULATIONS

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006 and ISO 11014:2009. This product is classified according to EU Directive 67/548/EC and GHS/CLP.

16. OTHER INFORMATION

16.1 Other information

For additional information regarding the products please contact the CHEMIOLA KIMYA SAN TIC. LTD. ŞTİ.

The above information complies with the 1907/2006 Directives and their amendments. In all cases of potential poisoning supportive therapy is of the utmost importance.

16.2 Related Person

Prepared by : Mehmet Barış NAIM (baris.naim@doruksistem.com.tr)
Uzman Akreditasyonu No: TURKAK/NBC 01.126.01 08.05.2017
www.MsdsMarket.com; info@doruksistem.com.tr; 02165180945

16.3 Revision Date, Version and SDS no

Date : June 22, 2018
Version : 1.0
MSDS No : 579001

16.4 Reason of re-issue

Compiling according to Regulation (EC) No 1272/2008

16.5 Relevant H - and EUH -phrases (number and full text):

H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H410	Very toxic to aquatic life with long lasting effects

16.6 Legal disclaimer

The purpose of the above information is to describe the products only in terms of health and safety requirements.

The information given should not, therefore, be construed as guaranteeing specific properties or as specification.

Customers should satisfy themselves as to the suitability and completeness of such information for their own particular use.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication.

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The above information relates only to the specific material(s) designated herein and may not be valid for such material(s) used in combination with any other materials or in any process or if the material is altered or processed, unless specified in the text.
The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. Due to the many factors outside our control when using this product, we cannot accept liability for any injury, accident, loss or damage caused through its use.

¹ CLP: Classification Labeling and Packaging

² GHS: Global Harmonised System

³ Classification, Labelling and Packaging of Substances and Mixtures

⁴ ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

⁵ RID: Regulations Concerning the International Transport of Dangerous Goods by Rail

⁶ IMDG: International Maritime Code for Dangerous Goods

⁷ ICAO: International Civil Aviation Organization

⁸ IATA: International Air Transport Association

¹⁰ TWA: Time weighted average