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| <p align="center">SDS Copper Sulphate Pentahydrate according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 453/2010</p> | <p align="center">BAKIRSVLFAT by  CUPRICHEM</p> <hr/> <p align="center">ENG Version 1.01/ 20152103</p> |
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Productform: - Substance
Substancename : - Copper Sulphate Pentahydrate
CLP Annex VI, Part 3 Index Nr: -
EG/Einecs number: -231-847-6
CAS No.: -7758-99-8
REACH registration No.: - 01-2119520566-40-0025

Formula: -CUSO4.5H2O

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

1.2.1. Relevant identified uses

In agriculture as a soil additive, pesticide; feed additive; germicide; leather and textile mordant; pigment; electroplating and electro refining of copper; medicine; wood and pulp preservative; engraving and lithography; in mining ore treatment; steel and rubber processing.

1.2.2. Uses advised against

Copper Sulphate Pentahydrate that contains Nickel Sulphate at a concentration of >0.1% should not be used in consumer products unless the resulting Nickel Sulphate concentration in the product is <0.1% w/w

1.3. Details of the supplier of the safety data sheet

Company Details: **BAKIRSULFAT KIMYA SANAYI VE TICRET AS**
Address: Altaycesme Mah, Cam Sokak, No:16, D Blok 80
Maltepe 34843 Istanbul, Turkey

1.3.1. Emergency telephone number

Emergency Telephone number: +90 216 4179414 (working hours) / +90 532 334 91 22 (24 hours)

Worldwide: <http://www.who.int/ipcs/poisons/centre>

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical and Chemical Hazards Not classified.

Human health Acute Tox. 4 - H302;Skin Irrit. 2 - H315;Eye Irrit. 2 - H319

Environment Aquatic Acute 1 - H400;Aquatic Chronic 1 - H410

Classification (67/548/EEC) Xn;R22 Xi;R36/38 N;R50/53

The Full Text for all R-Phrases and Hazard Statements is Displayed in Section 16

2.2. Label elements according Annex 1272/2008 EG

Substance Name:

Hazardous Pictograms (CLP):



Signalword CLP: - Warning

Hazard statements (CLP): - H302, H319, H315, H400, H410

Precautionary statements (CLP): - P273, P280, P301+312, P302+P352, P305+351+338, P501

2.3. Other hazards

Material is Acidic when dissolved in water

SECTION 3: Composition/information on ingredients

3.1. Substances

| | |
|---------------------------|------------------------------|
| Product Name | COPPER SULPHATE PENTAHYDRATE |
| REACH Registration Number | 01-2119520566-40-0025 |
| CAS-No. | 7758-99-8 |
| EU Index No. | 029-004-00-0 |
| EC No. | 231-847-6 |

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3.2 Mixtures

n/a

SECTION 4: First aid measures

4.1. Description of first aid measures

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| First-aid measures general: | When in doubt or if symptoms are observed, get medical advice. |
| First-aid measures after inhalation: | If possible reduce exposure using fresh air. Remove from exposure take the person to a well aerated place and keep calm. Seek medical advice. |
| First-aid measures after skin contact: | Take off contaminated clothes and wash with soap and plenty of water all the contaminated parts of the body. In case of irritation seek medical advice. |
| First-aid measures after eye contact: | Wash immediately with plenty of water for at least 15 minutes. Seek medical advice. |
| First-aid measures after ingestion: | If swallowed, do not induce vomiting: seek medical advice immediately and show this container |

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

See above, worried breath, skin irritation and eye irritation, stomach pain.

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

See above, get immediate medical attention if irritation or discomfort persist or in case of ingestion.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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| Suitable extinguishing media : | Product is not flammable. Use extinguishing media appropriate for surrounding fire (micronized water, CO ₂ , foam). |
| Unsuitable extinguishing media : | all is allowed, if suitable for surrounding, environment or stored materials |


5.2. Special hazards arising from the substance or mixture

Avoid breathing fumes that could be toxic (presence of sulphur oxides SO_x).

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| Fire hazard: | Unusual fire hazard |
| Explosion hazard: | Unusual explosion hazard |
| Reactivity: | When heated above 400C the product will emit toxic fumes like cupric oxide and sulfur dioxide. Material is acidic when dissolved in water and can react with magnesium to form hydrogen gas. |

5.3. Advice for firefighters

| | |
|---------------------------------|---|
| Precautionary measures fire: | Follow all the normal fire-fighting procedures. |
| Protection during firefighting: | Fire-fighters should wear proper protective equipment and self-contained (positive pressure if available) breathing apparatus with full face piece. |

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Provide adequate ventilation. Use protective gloves, goggles and suitable protective clothing.

6.2. Environmental precautions

Prevent entry into drains and other water sources

6.3. Methods and material for containment and cleaning up

Avoid dust formation. Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into closed container. 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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid dust formation. Do not breathe dust. Handle in a well ventilated area or wear adequate respiratory protection (anti-dust mask). Avoid contact with skin and eyes wearing working clothes, gloves and protective glasses. Do not eat, smoke or drink during use. After use keep the packaging well closed.

Precautions for safe handling: Prevent unauthorized access. Avoid contact with skin and eyes. Do not dry up the product.

Hygiene measures: Do not eat, drink or smoke when using this product. Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Wash contaminated clothing before reuse. Wash hands before eating. Wear full protective clothing for prolonged exposure and/or high concentrations.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Keep container tightly closed and in a well-ventilated place.

Storage conditions: Store in original container

7.3. Specific end use(s)

See section 1

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational (workplace) exposure limit values (OEL's, TWA 8 hour):

CuSO₄: 1 mg/m³ (average existing national OEL).
0.1 mg/m³ (Germany, MAK)

For specific countries check respective data valid for each country. Personal protective equipment should be worn in case these workplace exposure levels cannot be maintained, e.g. PPE2 dust masks.

REACH DNEL's, PNEC's and ERV's (from the CSR) for CuSO₄ are as follows:

Worker's health (Copper Sulphate),
Long-term systemic effects, dermal: DNEL = 137 mg/m³.
Other routes not reported / observed

Environment (Copper Sulphate),

Aquatic: PNEC = 7,8 µg/l (fresh water)
PNEC = 5,2 µg/l (marine)
Sediment: PNEC = 87 mg/kg dw (fresh water)
PNEC = 676 mg/kg dw (marine)

8.2. Exposure controls

Appropriate engineering controls: Natural ventilation should be adequate under normal use conditions.
Local exhaust ventilation (LEV) advised

Personal protective equipment: Gloves, glasses, Dust mask, and suitable protective clothes

Hand protection: Use protective gloves

Eye protection: Mask or glasses

Skin and body protection: Suitable protective clothes

Respiratory protection: If LEV is not working or in place, suitable dust mask with an appropriate filter is required

Environmental exposure controls: Do not allow uncontrolled discharge of product into the environment Avoid release to the environment.



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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

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|----------------------------|-------------------------------------|
| Physical state: | Solid |
| Appearance: | Blue Crystals or crystalline powder |
| Colour: | Blue |
| Odour: | None |
| Odour threshold: | N.A. |
| pH: | 4.0 |
| Melting point: | 110 C |
| Freezing point: | N.A. |
| Boiling point: | 110 C |
| Flash point: | N.A. |
| Flammability (solid, gas): | N.A. |
| Explosive limits: | N.A. |
| Vapour pressure: | 7.3 mm Hg at 25C |
| Relative density: | 2.286 g/cm ³ |
| Solubility: | 22g/100ml |
| Self-ignition temperature: | N.A. |
| Decomposition temperature: | N.A. |
| Viscosity, kinematic: | N.A. |
| Viscosity, dynamic: | N.A. |
| Explosive properties: | N.A. |
| Oxidising properties: | N.A. |

9.2. Other information

Product is hygroscopic and reacts with Acid

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable at normal handling- and storage conditions.

10.2. Chemical Stability

The product is stable at normal handling- and storage conditions, but is hygroscopic

10.3. Possibility of hazardous reactions

Decomposes above 110C

10.4. Conditions to avoid

Avoid high temperatures and avoid exposure to air and climate changes, keep dry to avoid caking. Avoid accumulation of dust and spillage to enter drains or water courses.

10.5. Incompatible materials

Incompatible with finely powdered metals, steel, nitromethane, hydrazine, hydroxyl amine and magnesium

10.6. Hazardous decomposition products

Oxides of copper. Oxides of sulfur

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SECTION 11:

11.1. Information on toxicological effects

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| Acute toxicity: | Oral by ingestion, danger of serious damage to health by prolonged exposure through inhalation |
| Skin corrosion/irritation: | Skin contact may cause irritation. Prolonged contact may cause dermatitis |
| Serious eye damage/irritation: | Can irritate and may cause corneal damage |
| Respiratory or skin sensitization: | N.A |
| Germ cell mutagenicity: | |
| Carcinogenicity: | Not considered to be |
| Reproductive toxicity: | N.A |
| Specific target organ toxicity (single exposure) : | NA |
| Specific target organ toxicity (repeated exposure) : | Prolonged exposure (years) may lead to Chronic effects like above and may cause damage to kidneys and liver |
| Aspiration hazard: | |

SECTION 12: Ecological information

12.1. Toxicity

Very toxic to aquatic life, LC 50/96 hour values for Fish < 1 mg/l

12.2. Persistence and degradability

When released into soil or water, material is not expected to be Biodegrade

12.3. Bio accumulative potential

Bio accumulation may occur along the food chain

12.4. Mobility in soil

In soil, material will leach into the groundwater

12.5. Results of PBT and vPvB assessment

N.A.


12.6. Other adverse effects

Not reported

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Refer to local government authority for disposal recommendations.

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SECTION 14: Transport information

In accordance with ADR / RID / ADNR / IMDG / ICAO /IATA

14.1. UN number

UN-No.: 3077

14.2. UN proper shipping name

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Transport document description: UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III, (E)

14.3. Transport hazard class(es)

Class (UN) : 9
Hazard labels (UN) : 9



14.4. Packing group


Packing group (UN) : III

14.5. Environmental hazards



Marine pollutant:
Other information:

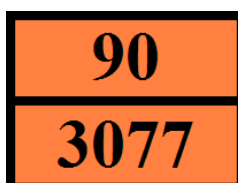
Bakirsulfat

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14.6. Special precautions for user

14.6.1. Overland transport

Hazard identification number (Kemler No.) : 90
 Classification code : M7
 Orange plates :



Tunnel restriction code : E

14.6.2. Transport by sea

Limited quantities (IMDG) :
 Excepted quantities (IMDG) : F-A
 EmS-No. : S-F

14.6.3 Air transport

Conform IATA rules: Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

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

N.A.

SECTION 15: Regulatory information

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

Copper Sulphate is listed on the list of dangerous substances and its amendments, annex I 67/548/EC and Annex VI 1272/2008. This substance is (Pre)-registered as special preparation according to Reach legislation, EC 1907/2006, by its constituent elements. This MSDS complies with the requirement of EC 1907/2006 Annex II and EU/453/2010

15.2. Chemical safety assessment

A chemical safety assessment has been carried out under Reach

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SECTION 16: Other information

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:

- P273** Avoid release to the environment.
P280 Wear protective gloves / protective clothing / eye protection / face protection.
P501 Dispose of contents / container to ... Dispose of waste and residues in accordance with local authority requirements.

R-phrases:

- 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

S-phrases:


- S22** Do not breathe dust
S26 Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S60 This material and its container must be disposed of as hazardous waste
S61 Avoid release to the environment. refer to special instructions / safety data sheets

Other hazard statements:

- H400** Very toxic to aquatic life.

Other precautionary statements:

- P264** Wash... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P301+P312 IF SWALLOWED: Call a POISON CENTRE or doctor / physician if you feel unwell.
P330 Rinse mouth.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice / attention.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P321 Specific treatment (see... on this label).

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| | |
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| P333+P313 | If skin irritation or rash occurs: Get medical advice / attention. |
| P362 | Take off contaminated clothing and wash before reuse. |
| P391 | Collect spillage. |

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. Bakirsulfat AS cannot accept any responsibility for loss or damage arising from the use or reliance upon this information

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