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Material Safety Data Sheet (MSDS)

Section 1: Chemical Product and Company Identification	
Product Name	Copper Sulfate Monohydrate (CuSO ₄ -H ₂ O) Powder (Cu:34% min)
CAS Number	10257-54-2
Chemical Formula	CuO ₄ S 1H ₂ O
Company Name	CAMACHEM (Part of CAMAL Group) 3F Jinlong East Beijing Station Road Chaoyang District, Beijing, China
Contact	sales@camachem.com
Company Website	www.camachem.com
Section 2: Composition and Information on Ingredients	
Formula: CuO ₄ S 1H ₂ O Molecular weight: 159.61 g/mol CAS-No.: 10257-54-2 EC-No.: 231-847-6 Index-No.: 029-004-00-0	
Section 3: Hazards Identification	
Classification of the substance or mixture GHS Classification in accordance with 29 CFR 1910 (OSHA HCS) Acute toxicity, Oral(Category 4), H302 Skin irritation(Category 2), H315 Eye irritation(Category 2A), H319 Acute aquatic toxicity(Category 1), H400 Chronic aquatic toxicity(Category 1), H410 GHS Label elements, including precautionary statements Pictogram  Signal word Warning Hazard statement(s) H302	

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Harmful if swallowed.
H315
Causes skin irritation.
H319
Causes serious eye irritation. H410
Very toxic to aquatic life with long lasting effects. Precautionary statement(s)
P264
Wash skin thoroughly after handling. P270
Do not eat, drink or smoke when using this product. P273
Avoid release to the environment. P280
Wear eye protection/ face protection. P280
Wear protective gloves. P301 + P312 + P330
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. 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. P337 + P313
If eye irritation persists: Get medical advice/ attention. P362
Take off contaminated clothing and wash before reuse. P391
Collect spillage. P501
Dispose of contents/ container to an approved waste disposal plant.
Hazards not otherwise classified (HNOC) or not covered by GHS-none

Section 4: First Aid Measures

Description of first aid measures General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact
Wash off with soap and plenty of water. Consult a physician.
In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11
Indication of any immediate medical attention and special treatment needed
No data available

Section 5: Fire and Explosion Data

Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special hazards arising from the substance or mixture



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Sulphur oxides, Copper oxides
Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.
Further information No data available

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation.
Avoid breathing Vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.
Avoid breathing dust.
For personal protection see section 8. Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Discharge into the environment must be avoided. Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. Reference to other sections For disposal see section 13.

Section 7: Handling and Storage

Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.
Provide appropriate exhaust ventilation at places where dust is formed.
For precautions see section 2.
Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place.
Air sensitive.
hygroscopic
Handle and store under inert gas.
Storage class (TRGS 510): Non Combustible Solids
Specific end use(s)
Apart from the uses mentioned in section 1 no other specific uses are stipulated

Section 8: Exposure Controls/Personal Protection

Exposure controls
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Personal protective equipment

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Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands. Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Section 9: Physical and Chemical Properties

Information on basic physical and chemical properties Appearance Form: solid Colour: light grey

Odor

No data available

Odor Threshold

No data available

pH

No data available

Melting point/freezing point

Melting point/range: 200 °C (392 °F)

Initial boiling point and boiling range

No data available

Flash point N/A

Evaporation rate No data available Flammability (solid, gas)

No data available

Upper/lower flammability or explosive limits

No data available Vapor pressure

9.7 hPa (7.3 mmHg) at 25 °C (77 °F)

Vapor density

No data available Relative density 3.603 g/cm³ Water solubility No data available

Partition coefficient: n-octanol/water

No data available

Auto-ignition temperature

No data available Decomposition temperature

No data available Viscosity

No data available Explosive properties

No data available Oxidizing properties

No data available

Other safety information

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No data available

Section 10: Stability and Reactivity Data

Reactivity

No data available Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available Conditions to avoid

Air sensitive. hygroscopic Incompatible materials

Powdered metals, Anhydrous copper(II) sulfate, reacts violently with:, hydroxylamine, Magnesium

Hazardous decomposition products

Other decomposition products-No data available In the event of fire: see section 5

Section 11: Toxicological Information

Information on toxicological effects

Acute toxicity

No data available

Inhalation: No data available

Dermal: No data available No data available

Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation

Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals. Germ cell mutagenicity

No data available Carcinogenicity 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.

ACGIH:

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP:

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA:

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

Possible risk of congenital malformation in the fetus.

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Specific target organ toxicity -single exposure

No data available

Specific target organ toxicity -repeated exposure No data available Aspiration hazard No data available

Additional Information RTECS: Not available

Symptoms of systemic copper poisoning may include: capillary damage, headache, cold sweat, weak pulse, and kidney and liver damage, central nervous system excitation followed by depression, jaundice, convulsions, paralysis, and coma. Death may occur from shock or renal failure. Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defects, and copper deposition in the cornea as exemplified by humans with Wilson's disease. It has also been

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reported that copper poisoning has lead to hemolytic anemia and accelerates arteriosclerosis., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach-Irregularities-Based on Human Evidence

Stomach-Irregularities-Based on Human Evidence

Section 12: Ecological Information

Toxicity

Toxicity to daphnia and other aquatic invertebrates

EC50-Daphnia magna (Water flea)-0.024 mg/l-48 h

Persistence and degradability

No data available Bioaccumulative potential

No data available Mobility in soil

No data available

Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life.

Section 13: Disposal Considerations

Waste treatment methods Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contact a licensed professional waste disposal service to dispose of this material.

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Contaminated packaging Dispose of as unused product.

Section 14: Transport Information

DOT (US)

UN number: 3077 Class: 9

Packing group: III Proper shipping name:

Environmentally hazardous substances, solid, n.o.s.(Copper(II) sulfate monohydrate) Reportable Quantity (RQ): 10 lbs

Marine pollutant: yes

Poison Inhalation Hazard: No IMDG

UN number: 3077 Class: 9

Packing group: III EMS-No: F-A, S-F Proper shipping name:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Copper(II) sulfate monohydrate)

Marine pollutant: yes

IATA

UN number:3077 Class: 9

Packing group: III Proper shipping name:

Environmentally hazardous substance, solid, n.o.s.(Copper(II) sulfate monohydrate)

Section 15: Other Regulatory Information

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SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

Copper(II) sulfate monohydrate

CAS-No. 10257-54-2 Revision Date 1993-04-24

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard Massachusetts Right To Know Components Copper(II) sulfate monohydrate

CAS-No. 10257-54-2 Revision Date 1993-04-24

Pennsylvania Right To Know Components Copper(II) sulfate monohydrate

CAS-No. 10257-54-2 Revision Date 1993-04-24

New Jersey Right To Know Components Copper(II) sulfate monohydrate

CAS-No. 10257-54-2 Revision Date 1993-04-24

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16: Other Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if we have been advised of the possibility of such damages.

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