COLUMBUS CHEMICAL INDUSTRIES INC.

Safety Data Sheet

Cupric Sulfate, Anhydrous Powder Reagent

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Cupric Sulfate, Anhydrous Powder Reagent

Synonyms/Generic Names: Copper (II) Sulfate

Product Number: 1710

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information Call: 920-623-2140 (Monday-Friday 8:00-4:30)

In Case of Emergency Call: CHEMTREC – 800-424-9300 or 703-527-3887 (24 Hours/Day, 7Days/Week)

2. HAZARDS IDENTIFICATION

OSHA Hazards: Target organ effect, Toxic by ingestion, Irritant

Target Organs: Liver, Kidney, Blood

Signal Words: Warning

Pictograms:

GHS Classification:

Acute toxicity, Oral	Category 4
Skin irritation	Category 2
Eye irritation	Category 2A
Acute aquatic toxicity	Category 1

GHS Label Elements, including precautionary statements:

Hazard Statements:

H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.

Precautionary Statements:

P273	Avoid release to the environment
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

Potential Health Effects

Eyes	Causes eye irritation.
Inhalation	Harmful if inhaled. Causes respiratory tract irritation.
Skin	Harmful if absorbed through skin. Causes skin irritation.
Ingestion	Toxic if swallowed.

NFPA Ratings

Health	2
Flammability	0
Reactivity	0
Specific hazard	Not Available

HMIS Ratings

Health	2
Fire	0
Reactivity	0
Personal	E

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Cupric Sulfate Anhydrous	100	7758-98-7	231-847-6	CuO_4S	159.61 g/mol

4. FIRST-AID MEASURES

Eyes	In case of eye contact, rinse with plenty of water and seek medical attention.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention.
Ingestion	**Do Not Induce Vomiting!** Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention.

5. FIREFIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Product is not flammable. Do not use water on product. Use appropriate media for adjacent fire. Use flooding quantities of water to cool containers.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
Specific hazards arising from the chemical	Emits toxic fumes (sulfur oxides, copper oxides) under fire conditions. (See also Stability and Reactivity section).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Do not disperse dust into the air during clean-up. Any release to the environment may require reporting to federal/national or local agencies.

Methods and materials for containment and cleaning up	Do not disperse dust into the air during clean-up. Use appropriate tools to pick up any spill. Pick up and arrange disposal without creating dust. Sweep up and shovel. Place in a closed container. Dispose of all waste or cleanup materials in accordance with local regulations.

7. HANDLING AND STORAGE

Precautions for safe handling
See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use.

Conditions for safe storage, including any incompatibilities
Store in a tightly closed container. Store in a dry, cool, and well ventilated area. Isolate from oxidizing materials. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Controls:

Component	Exposure Limits	Basis	Entity
Copper Sulfate	1 mg/m^3	REL	NIOSH

TWA: Time Weighted Average over 8 hours of work.
TLV: Threshold Limit Value over 8 hours of work.
REL: Recommended Exposure Limit
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit during x minutes.
IDLH: Immediately Dangerous to Life or Health
WEEL: Workplace Environmental Exposure Levels
CEIL: Ceiling

Personal Protection

Eyes	Chemical safety glasses.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear neoprene or nitrile gloves, protective clothing appropriate to the risk of exposure.
Other	Not Available

Other Recommendations
Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Light grey powder.
Odor	Pleasant.
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	590°C (1,202°F)
Initial boiling point and boiling range	Not Available
Flash point	Not Available
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable

Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	9.7 hPa (7.3 mmHg)
Vapor density	Not Available
Relative density	3.6 g/cm^3
Solubility (ies)	Soluble in water and methanol.
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	650°C (1,094°F)

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Moisture, air.
Incompatible Materials	Powdered metals, hydroxylamine, magnesium, strong reducing agents.
Hazardous Decomposition Products	Sulfur oxides, copper oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Skin	LD50 Dermal – rat - > 2000 mg/kg
Eyes	Not Available
Respiratory	Not Available
Ingestion	LD50 Oral – rat – 300 mg/kg
Intraperitoneal	LD50 – Rat – 20 mg/kg
Subcutaneous	LD50 – Rat – 43 mg/kg
Intravenous	LD50 – Rat – 48.9 mg/kg

Carcinogenicity

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

Signs & Symptoms of Exposure

Eyes	May cause eye irritation. Symptoms include eye burns, pain, watering eyes
Inhalation	Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath, burning, choking, coughing, wheezing, laryngitis, shortness of breath, headache or nausea.
Skin	Contact causes redness, irritation, itching and pain. Prolonged or repeated skin exposure may cause dermatitis
Ingestion	Repeated ingestion of small amounts may cause weakness, confusion, central nervous system effects, nausea and skin eruptions.

Chronic Toxicity	Not Available
Teratogenicity	Not Available
Mutagenicity	Not Available
Embryotoxicity	Not Available
Specific Target Organ Toxicity	Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Vertebrate	Not Available
Aquatic Invertebrate	EC50 – Daphnia magna – 0.024 mg/l – 48 hours
Terrestrial	Not Available

Persistence and Degradability	Not Available
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Very toxic to all aquatic organisms

13. DISPOSAL CONSIDERATIONS

Waste Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORT INFORMATION

US DOT	UN3077, Environmentally hazardous substances, solid, n.o.s. (copper(II) sulfate)), 9, pg III
TDG	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (COPPER (II) SULFATE), 9, pg III
IMDG	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (COPPER (II) SULFATE), 9, pg III
Marine Pollutant	Yes
IATA/ICAO	UN3077, Environmentally hazardous substances, solid, n.o.s. (copper(II) sulfate), 9, pg III

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Cupric Sulfate
SARA 312	Cupric Sulfate
SARA 313	Listed: Cupric Sulfate
WHMIS Canada	Class D-1B: Poisonous and infectious material- Immediate and serious effects- Toxic Class D-2B: Poisonous and infectious material- Other effects- Toxic

16. OTHER INFORMATION

Revision	Date
Revision 1	07-12-2011
Revision 2	08/16/2013