

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 4/13/2015 Revision date: 5/26/2023 Version: 1.1

SECTION 1: Identification

1.1. Identification

Product form : Substance
Trade name : Copper Sulfate Smart Crystals
CAS-No. : 7758-99-8
Formula : Cu.H2O4S.5H2O
Synonyms : Copper(II) sulfate, pentahydrate (1:1:5) / Sulfuric acid, copper(2+) salt, pentahydrate / Copper sulphate pentahydrate / Copper sulphate, pentahydrate / Copper sulfate pentahydrate / Copper(II) sulfate, pentahydrate / Copper(II) sulfate pentahydrate / Calcanthite / Copper(II) sulfate pentahydrate (1:1:5) / Cupric sulphate pentahydrate / Copper(II) sulphate pentahydrate / Cupic sulfate / Copper sulfate / Cupric sulfate / Copper sulphate / cupric sulfate

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Algae Control Product

1.3. Supplier

Sanco Industries, Inc.
1819 S. Calhoun Street
Fort Wayne, IN 46802
Phone: 260-426-6281
Toll Free: 888-697-2626

1.4. Emergency telephone number

Emergency number : 24 Hour Contact - CHEMTREC 1-800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Acute toxicity (oral) Category 4	H302	Harmful if swallowed
Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2A	H319	Causes serious eye irritation

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning
Hazard statements (GHS US) : H302 - Harmful if swallowed
H315 - Causes skin irritation
H319 - Causes serious eye irritation
Precautionary statements (GHS US) : P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell.
P302+P352 - If on skin: Wash with plenty of water.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove

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contact lenses, if present and easy to do. Continue rinsing.
P330 - Rinse mouth.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name	Product identifier	%	GHS US classification
Sulfuric acid, copper(2+) salt (1:1), pentahydrate (Main constituent)	CAS-No.: 7758-99-8	99	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Call a poison center/doctor/physician if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment (see supplemental first aid instruction on this label). Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER or doctor/physician if you feel unwell. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met. Harmful if swallowed.
Symptoms/effects after skin contact	: Causes skin irritation. Irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation. Eye irritation.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : If heated above 400°C, this product can decompose to emit toxic sulfur fumes.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product. On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Avoid contact with skin and eyes. Wear personal protective equipment.
Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling. Wash contaminated clothing before reuse. Always wash hands after handling the product.

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7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.
Incompatible products	: Strong bases. Strong acids.
Incompatible materials	: Sources of ignition. Direct sunlight Moisture Solutions are mildly corrosive to steel. Store solutions in plastic or rubber or 304, 347, or 316 stainless steel.Strong bases.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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USA - NIOSH - Occupational Exposure Limits

NIOSH REL TWA	1 mg/m ³
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8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Wear protective gloves.

Eye protection:

Chemical goggles or safety glasses. Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Wear appropriate mask

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystals/Powder.
Color	: Blue
Odor	: None
Odor threshold	: No data available
pH	: 3.7 – 4.2 10% Solution
pH solution	: 3.7 – 4.2 10% solution
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available

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Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: 2.284
Molecular mass	: 249.68 g/mol
Solubility	: Ethanol: Slightly soluble
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Moisture

10.5. Incompatible materials

Solutions are mildly corrosive to steel. Store solutions in plastic or rubber or 304, 347, or 316 stainless steel.Strong bases.

10.6. Hazardous decomposition products

If dry heated above 600°C, toxic sulfur may evolve..

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

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LD50 oral rat	960 mg/kg
LD50 dermal rabbit	> 8 g/kg
ATE US (oral)	960 mg/kg body weight

Skin corrosion/irritation	: Causes skin irritation. pH: 3.7 – 4.2 10% Solution
Serious eye damage/irritation	: Causes serious eye irritation. pH: 3.7 – 4.2 10% Solution

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Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: Not applicable
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met. Harmful if swallowed.
Symptoms/effects after skin contact	: Causes skin irritation. Irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation. Eye irritation.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

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LC50 - Fish [1]	0.66 – 1.15 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [semi-static])
EC50 - Crustacea [1]	0.147 – 0.227 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 - Fish [2]	0.96 – 1.8 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

12.2. Persistence and degradability

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Persistence and degradability	Not established.
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12.3. Bioaccumulative potential

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Bioaccumulative potential	Not established.
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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local, state, and federal regulations.
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN3077 Environmentally hazardous substances, solid, n.o.s. (CUPRIC SULFATE, Reportable Quantity (RQ) 10 lbs), 9, III

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UN-No.(DOT) : 3077
DOT NA no. : UN3077
DOT Proper Shipping Name : Environmentally hazardous substances, solid, n.o.s.
CUPRIC SULFATE, Reportable Quantity (RQ) 10 lbs
Department of Transportation (DOT) Hazard Classes : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140
Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)



DOT Symbols : G - Identifies PSN requiring a technical name
Packing group (DOT) : III - Minor Danger

DOT Packaging Exceptions (49 CFR 173.xxx) : 155
DOT Packaging Non Bulk (49 CFR 173.xxx) : 213
DOT Packaging Bulk (49 CFR 173.xxx) : 240
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : No limit
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : No limit
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

Additional information

Emergency Response Guide (ERG) Number : 171

TDG

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

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SARA Section 311/312 Hazard Classes	Acute toxicity Skin corrosion or irritation Serious eye damage or irritation
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All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

Sulfuric acid, copper(2+) salt (1:1), pentahydrate	CAS-No. 7758-99-8	100%
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This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

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15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

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Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Japanese ENCS (Existing New Chemical Substances) inventory
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Japanese Poisonous and Deleterious Substances Control Law
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

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Revision date : 5/26/2023

Other information : None.

Full text of H-phrases

H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation

Safety Data Sheet (SDS), USA

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