



# COPPER SULFATE SMART CRYSTALS

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 05/25/2016 Version: 1.1

### SECTION 1: Chemical Product and Company Identification

#### 1.1. Product identifier

Product form : Substance  
Trade name : Crystal Blue Copper Sulfate Smart Crystals  
CAS No : 7758-99-8  
Formula :  $Cu.H_2O_4S.5H_2O$   
Synonyms : Copper(II) sulfate pentahydrate

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

Use of the substance/mixture : Algae Control Product

#### 1.3. Details of the supplier of the safety data sheet

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: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (GHS-US)

Acute Tox. 4 (Oral) H302  
Skin Irrit. 2 H315  
Eye Irrit. 2A H319

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS07

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 and other exposed areas thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P280 - Wear protective gloves/protective clothing/eye protection  
P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
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  
P330 - If swallowed, rinse mouth  
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  
P501 - Dispose of contents/container in accordance with local, state and federal regulations

#### 2.3. Other hazards

No additional information available

#### 2.4. Unknown acute toxicity (GHS-US)

None of the ingredients are of unknown toxicity

# COPPER SULFATE SMART CRYSTALS

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Name	Product identifier	%	Classification (GHS-US)
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 H-phrases: see section 16

#### 3.2. Mixture

Not applicable – product is a substance

### 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).
- First-aid measures after inhalation : Remove victim to fresh air and 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.
- 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.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER/doctor/physician if you feel unwell.

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

- Symptoms/injuries after skin contact : Causes skin irritation.
- Symptoms/injuries after eye contact : Causes serious eye irritation.
- Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

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

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. 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. Special hazards arising from the substance or mixture

- Fire hazard : If heated above 400°C, this product can decompose to emit toxic sulfur fumes.

#### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Contain all water used for fire-fighting to the greatest extent possible.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Prevent entry of excess quantities to storm sewers and public waters. Notify authorities if significant quantities do enter storm sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials. Do not wash away crystals or powder ; recover as dry material if possible. If product is in a confined solution, react with soda ash to form an insoluble copper carbonate solid that can be scooped up.

# COPPER SULFATE SMART CRYSTALS

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : 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.
- Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas thoroughly after handling.

### 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.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### ROOT DESTROYER 7758-99-8

USA NIOSH	NIOSH Recommended Exposure Limit	1.0 mg/m <sup>3</sup>
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### 8.2. Exposure controls

- Personal protective equipment : Avoid all unnecessary exposure.
- Hand protection : Wear protective gloves.
- Eye protection : Chemical goggles.
- Skin and body protection : Wear suitable protective clothing.
- Respiratory protection : Not typically required. If airborne concentrations exceed recommended exposure limits, use a NIOSH approved respirator.
- Other information : When using, do not eat, drink or smoke. Provide sufficient ventilation to maintain airborne concentrations below recommended exposure limits.

## 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
- Relative evaporation rate (butyl acetate=1) : No data available
- Melting point : No data available
- Freezing point : No data available
- Boiling point : No data available
- Flash point : No data available
- Auto-ignition temperature : No data available
- Decomposition temperature : No data available
- Flammability (solid, gas) : No data available
- Vapor pressure : No data available
- Relative vapor density at 20 °C : No data available
- Relative density : 2.284
- Solubility : Water: 22.37% @ 0°C; 117.95% @ 100°C  
Ethanol: Slightly soluble

# COPPER SULFATE SMART CRYSTALS

## Safety Data Sheet

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Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable

### 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.

### 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 : Harmful if swallowed.

#### ROOT DESTROYER 7758-99-8

LD50 oral rat	960 mg/kg
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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

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Harmful if swallowed.

Symptoms/injuries after skin contact : Causes skin irritation.

Symptoms/injuries after eye contact : Causes serious eye irritation.

Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

## SECTION 12: Ecological information

### 12.1. Toxicity

# COPPER SULFATE SMART CRYSTALS

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

ROOT DESTROYER (7758-99-8)	
LC50 fish 1	0.66 - 1.15 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [semi-static])
EC50 Daphnia 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

ROOT DESTROYER (7758-99-8)	
Persistence and degradability	Not established.

### 12.3. Bioaccumulative potential

ROOT DESTROYER (7758-99-8)	
Bioaccumulative potential	Not established.

### 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. Waste treatment methods

Waste 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  
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 (Inner packagings not over 5.0 kg (11 lbs) net capacity for solids may be packaged as a limited quantity except for transportation by air.)  
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

### ADR

No additional information available

# COPPER SULFATE SMART CRYSTALS

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### Transport by sea

No additional information available

### Air transport

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### ROOT DESTROYER (7758-99-8)

SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	Copper Compounds 100%

### 15.2. International regulations

#### CANADA

#### ROOT DESTROYER (7758-99-8)

WHMIS Classification	Class D Division 2 Subdivision B - Toxic material causing other toxic effects
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### EU-Regulations

No additional information available

### Classification according to Regulation (EC) No. 1272/2008 [CLP]

No additional information available

### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

No additional information available

#### 15.2.2. National regulations

#### ROOT DESTROYER (7758-99-8)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on Inventory of Existing Chemical Substances (IECSC)  
Listed on New Zealand - Inventory of Chemicals (NZIoC)  
Listed on Inventory of Chemicals and Chemical Substances (PICCS)  
Poisonous and Deleterious Substances Control Law  
Pollutant Release and Transfer Register Law (PRTR Law)

### 15.3. US State regulations

No additional information available

## SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

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

SDS US (GHS HazCom 2012)

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