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·H2O4S·5H2O
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

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): !

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
SECTION 3: Composition/information on ingredients

3.1. Substance

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric acid, copper(2+) salt (1:1), pentahydrate (Main constituent)</td>
<td>(CAS No) 7758-99-8</td>
<td>99</td>
<td>Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319</td>
</tr>
</tbody>
</table>

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


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.
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

<table>
<thead>
<tr>
<th>ROOT DESTROYER 7758-99-8</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA NIOSH</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Crystals/Powder.</td>
</tr>
<tr>
<td>Color</td>
<td>Blue.</td>
</tr>
<tr>
<td>Odor</td>
<td>None.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>3.7 - 4.2 10% Solution</td>
</tr>
<tr>
<td>pH solution</td>
<td>3.7 - 4.2 10% solution</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>2.284</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water: 22.37%@ 0°C; 117.95%@ 100°C</td>
</tr>
<tr>
<td></td>
<td>Ethanol: Slightly soluble</td>
</tr>
<tr>
<td>Property</td>
<td>Value</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### 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**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>960 mg/kg</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td></td>
<td>pH: 3.7 - 4.2 10% Solution</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td></td>
<td>pH: 3.7 - 4.2 10% Solution</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td>Potential Adverse human health effects and symptoms</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>Symptoms/injuries after skin contact</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>Symptoms/injuries after eye contact</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Symptoms/injuries after ingestion</td>
<td>Swallowing a small quantity of this material will result in serious health hazard.</td>
</tr>
</tbody>
</table>

### SECTION 12: Ecological information

#### 12.1 Toxicity
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
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

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)

While Sanco Industries, Inc. believes the data set forth is accurate to the best of our knowledge, Sanco Industries, Inc. makes no warranties and expressly disclaims all liability for reliance thereon. Such data is offered solely for your consideration and verification.

04/13/2015 EN (English US)