

**Sanco Industries, Inc.**  
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**Material Safety Data Sheet**



**Copper Sulfate Smart Crystals**

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**SECTION 1 – PRODUCT IDENTIFICATION**

**TRANSPORT EMERGENCY**

Telephone: 888-697-2626

**EPA REG. NUMBER:**

83190-2-72838

**CHEMICAL NAME:**

copper sulfate pentahydrate

**TRADE NAME(S):**

Crystal Blue Copper Sulfate Smart Crystals 15lb

**NON-TRANSPORTATION EMERGENCY**

Telephone: 888-697-2626

**PRODUCT CODE:** not yet assigned

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**SECTION 2 – COMPOSITION**

**COMPONENT**

Copper Sulfate Pentahydrate

**PERCENTAGE**

99.0%

**CAS**

7758-99-8

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**SECTION 3 – PHYSICAL DATA**

**PHYSICAL FORM:** crystals/powder

**COLOR:** blue

**ODOR:** none

**BOILING POINT:** -5 H<sub>2</sub>O @150° F

**FREEZING POINT:** N/A

**MELTING POINT:** -4 H<sub>2</sub>O @110° F

**VAPOR PRESSURE:** N/A

**VAPOR DENSITY (AIR=1):** N/A

**SPECIFIC GRAVITY:** 2.284

**pH:** N/A

**SOLUBILITY IN H<sub>2</sub>O:** 22.37% @0°C;

**SOLUBILITY IN OTHER SOLVENTS:**

**EVAPORATION RATE:** N/A

117.95% @100°C

Soluble in methanol, glycerol, and slightly soluble in ethanol.

**VOLATILITY /VOL(%):** N/A

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**SECTION 4 – FIRE & EXPLOSION HAZARDS**

**FLASH POINT:** N/A

**FLAMMABLE LIMITS:** Not flammable. If heated above 400°C, it can decompose to emit toxic fumes of oxide and sulfur.

**EXTINGUISHING MEDIA:** Copper sulfate does not burn nor will it support combustion. If stored with other combustible products, use water, CO<sub>2</sub> or dry chemical.

**SPECIAL FIRE FIGHTING PROCEDURES:** If dry heated above 600° C, SO<sub>2</sub> is evolved. If water is used, it will solubalize and copper sulfate and care should be taken to keep such water out of streams or other water bodies.

**UNUSUAL FIRE OR EXPLOSION HAZARDS:** None.

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**SECTION 5 – REACTIVITY DATA**

**STABILITY:** Stable.

**INCOMPATIBILITY:** None known when product remains dry. Product readily dissolves in water. Solutions are mildly corrosive to steel. Store solutions in plastic or rubber or 304, 347 or 316 stainless steel. Iron and moisture should be avoided. Store in a dry area. With exposure to air, it will oxidize and turn whitish.

**CONDITIONS TO AVOID:** Product is highly soluble, but does not react with water.

**HAZARDOUS POLYMERIZATION:** Will not occur

**HAZARDOUS DECOMPOSITION:** None at normal production temperatures and pressures. If dry heated above 600°C, toxic sulfur may evolve.

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## SECTION 6 – HEALTH HAZARDS DATA

### ROUTE(S) OF ENTRY:

**Swallowing** – Toxic orally in accordance with FHSLA regulations. Acute oral LD<sub>50</sub> (male rats) = 472 mg/Kg.

**Skin** – Non-toxic. Skin irritation index is zero in accordance with FHSLA regulations.

**Eyes** – Corrosive in accordance with FHSLA regulations. Eye irritation score: 24 hours = 41.67; 48 hours = corrosive.

**Inhalation** – Inhalation of dust may cause irritation to upper respiratory tract.

**CARCINOGEN:** None per NTP, OSHA and IARC.

This product contains copper sulfate subject to the reporting requirements of Section 13 of the Emergency Planning and Community Right-to-Know Act of 1986 (40 CFR 372).

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## SECTION 7 – FIRST AID

**IF SWALLOWED:** Give large amounts of milk or water. Induce vomiting. Call Poison Control Center or a physician.

**IF ON SKIN:** Wash thoroughly with soap and water. Remove and wash contaminated clothing before reuse.

**IF IN EYES:** Immediately flush eyes with plenty of water for 15 minutes. Hold eye lids apart during irrigation. Call a physician.

**IF INHALED:** Remove person to fresh air and call a physician.

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## SECTION 8 – SPECIAL PROTECTION INFORMATION

**PERSONAL PROTECTIVE EQUIPMENT:** Chemical safety goggles. Rubber gloves and rubber apron may be worn.

**VENTILATION:** TWA = 1 mg/L for copper sulfate. When TWA exceeds this limit in the workplace, provide appropriate ventilation. Alternatively, provide respiratory protection equipment in accordance with Paragraph 1910.134 of Title 29 of the Code of Federal Regulations.

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## SECTION 9 – ENVIRONMENTAL AND DISPOSAL PROCEDURES

**AQUATIC TOXICITY:** LC<sub>50</sub> 24 hours, Daphnia magna equals 0.182 mg/L. Rainbow Trout equals 0.17 mg/L. Blue Gill equals 1.5 mg/L. All values are expressed as copper sulfate pentahydrate. Test water was soft.

**SPILLS & LEAKS:** Comply with Federal, State and local regulations on reporting spills. Do not wash away crystals or powder. Recover dry 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.

**WASTE DISPOSAL:** Do not reuse container. Comply with Federal, State and local regulations. Sweep up crystals, powder or insoluble copper carbonate and dispose of in an approved landfill.

**ENVIRONMENTAL EFFECTS:** May be dangerous if it enters the public water systems. Follow local regulation. Toxic to fish and plants. Fish toxicity critical concentration is 235 mg/L and plant toxicity is 25 mg/L.

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## SECTION 10 – REGULATORY INFORMATION

**NOTICE:** The information herein is presented in good faith and believed accurate. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another. It is the buyer's responsibility to ensure that its activities comply with Federal, State and local laws.

### **U.S.REGULATIONS:**

**SARA 313 Information** – This product contains the following substance 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: COPPER COMPOUND 63.3%

**SARA Hazard Category** – This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following category: AN IMMEDIATE HEALTH HAZARD

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## SECTION 11 – SPECIAL PRECAUTIONS

**STORAGE:** Store in a dry place.

**OTHER PRECAUTIONS:** None other than those stated in the MSDS or on the package.

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## **SECTION 12 – TRANSPORTATION**

**D.O.T. SHIPPING NAME:** RQ, Environmentally Hazardous Substance, Solid, NOS, (CUPRIC SULFATE), 9, UN3077, PGIII, ERG 171

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## **SECTION 13 – ADDITIONAL INFORMATION**

**DISCLAIMER** – 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.

ABBREVIATIONS KEY: N/A = Not available or applicable