



## Copper Sulfate / Aqua-Ox™ PRODUCT PROFILE

### CHARACTERISTICS

**Copper Sulfate** is the most widely used and, in most cases, most economical algae control chemical available. It has been applied directly to both source waters (i.e. lakes, reservoirs) and settling basins in drinking water applications. Available in dry and liquid forms, it can be fed seasonally or in some cases year round.

**Aqua-Ox™ 446** combines the algaecidal efficiency of liquid copper sulfate with the added benefit of a predissolved permanganate. Aqua-Ox™ 446 can be added at the intake to the reservoir or injected between the raw water source and the treatment plant for thorough dispersal in the system.

### TYPICAL PROPERTIES

|  | Dry<br>Copper Sulfate | Liquid Copper<br>Sulfate, 25% | Aqua-Ox™ 446       |
|--|-----------------------|-------------------------------|--------------------|
| Appearance                                   | Blue crystal          | Blue liquid                   | Dark purple liquid |
| Copper (II) Sulfate Pentahydrate, %          | 99                    | 24 - 26                       | 19 - 21            |
| Soluble Cupric Iron (Cu <sup>+2</sup> ), %   | 25                    | 6.1 - 6.6                     | 4.8 - 5.3          |
| Sodium Permanganate (NaMnO <sub>4</sub> ), % | —                     | —                             | 4                  |
| pH (neat)                                    | —                     | 2.0 - 2.1                     | 2.0 - 3.0          |
| Specific Gravity                             | 2.284                 | 1.17 - 1.19                   | 1.13 - 1.15        |

**Liquid Copper Sulfate (Winterized) also available**

### PRODUCT USES

- Algae control
- Disinfection byproduct control

### ADVANTAGES OF LIQUID COPPER SULFATE

- Metering a precise concentration provides accurate dosages to match the algaecidal demand.
- Proper dosing ensures that all the copper will be consumed by the algae, leaving virtually no residual in the exit water.
- Feed rates can be optimized by monitoring copper residuals in the exit water.
- Unlike the scattered crystals which can become coated with a copper hydroxide film, preventing dissolution, 100% of the liquid is available for its algaecidal function.

### ANTICIPATED FEED RATES

Typical feed rates will deliver 2-8 ppm Liquid Copper Sulfate, 25%, or the equivalent of 0.5 - 2.0 ppm copper sulfate salt. Water hardness and temperature, the type and amount of vegetation to be controlled, and the water plant flow rate are factors in determining the dosage for Liquid Copper Sulfate and Aqua-Ox™ 446.

# Copper Sulfate / Aqua-Ox™

## PRODUCT PROFILE

### CONTAINERS

#### Dry Copper Sulfate

- 50 lb. bag

#### Liquid Copper Sulfate, 25% & Aqua-Ox™ 446

- Bulk transport
- 275 gal. one way container
- 55 gal. plastic drum

### SHIPPING LOCATION

Dry Copper Sulfate, Liquid Copper Sulfate and Aqua-Ox™ 446 are shipped from the following North American location:

- Odom, TX

### SHIPPING REGULATIONS

#### Dry Copper Sulfate

Hazard Class: 9

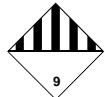
Label: *Miscellaneous*

ID Number: UN3077

Proper Shipping Name:

*Environmentally Hazardous Substances, Solid, N.O.S. (Contains Cupric Sulfate)*

Packing Group: III



#### Liquid Copper Sulfate, 25%

Hazard Class: 9

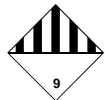
Label: *Miscellaneous*

ID Number: UN3082

Proper Shipping Name:

*Environmentally Hazardous Substances, Liquid, N.O.S. (Contains Cupric Sulfate)*

Packing Group: III



#### Aqua-Ox™ 446

Hazard Class: 9

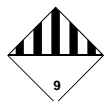
Label: *Miscellaneous*

ID Number: UN3082

Proper Shipping Name:

*Environmentally Hazardous Substances, Liquid, N.O.S. (Contains Cupric Sulfate)*

Packing Group: III



### PRODUCT SAFETY INFORMATION

Anyone responsible for the procurement, use or disposal of these products should familiarize himself or herself and those handling the product with the appropriate safety and handling precautions involved.

This information is available in the Material Safety Data Sheet, which may be obtained by contacting our Customer Service group. In the event of an emergency with these products, call the 24 hour Emergency Number:

*US Only: (CHEMTREC) (800) 424-9300*

*Canada Only: (CANUTEC) (613) 996-6666*

### CORPORATE HEADQUARTERS

General Chemical

90 East Halsey Road

Parsippany, NJ 07054

### IN CANADA

Call Customer Service at

(800) 631-8050 (English)

(866) 543-3896 (French)



#### CUSTOMER SERVICE

**(800) 631-8050**

#### TECHNICAL SERVICE

**(800) 255-7589 or (315) 478-2323**

#### WEBSITE

**[www.GeneralChemical.com](http://www.GeneralChemical.com)**