

83918-4

4/24/2009

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

APR 24 2009

Ms. Kaci Rosario  
Product Safety Supervisor  
General Chemical, LLC  
90 East Halsey Road  
Parsippany, NJ 07054

RE: Notification to add Alternate Brand Name: **General Chemical™ Liquid Copper Sulfate 25%**  
EPA Reg. No.: 83918-4  
Date of Submission: March 20, 2009

Dear Ms. Rosario:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated March 20, 2009, for the product, Liquid Copper Sulfate. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested fall within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

If you have any questions, please call me directly at 703-305-6249 or Joyce Edwards of my staff at 703-308-5479.

Sincerely,

A handwritten signature in black ink, appearing to be "Linda Arrington".

Linda Arrington  
Notifications & Minor Formulations Team Leader  
Registration Division (7505P)  
Office of Pesticide Programs

2010

Please read instructions on reverse before completing form.

Form Approved, OMB No. 2070-0060

	United States Environmental Protection Agency Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number
	Application for Pesticide – Section I		
	1. Company/Product Number 83918-4	2. EPA Product Manager	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted

4. Company/Product (Name) Liquid Copper Sulfate	PM# <u>22</u>	<input type="checkbox"/> None <input type="checkbox"/> Restricted
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5. Name and Address of Applicant (Include ZIP Code) General Chemical, LLC 90 East Halsey Road Parsippany, NJ 07054  <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to:  EPA Reg. No. _____ Product Name <u>NOTIFICATION</u> <u>APR 24 2009</u>
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Section - II	
<input type="checkbox"/> Amendment – Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application
<input checked="" type="checkbox"/> Notification – Explain below.	<input type="checkbox"/> Other – Explain below.

Explanation: Use additional page(s) if necessary. (For Section I and Section II.)

Notification to add alternate brand name [ABN]: General Chemical™ Liquid Copper Sulfate 25%  
This notification is consistent with the provisions of PR-Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Section - III			
1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	2. Type of Container <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify)
*Certification must be submitted If "Yes" Unit Packaging wgt. No. per container		If "Yes" Package wgt. No per container	
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container	4. Size(s) Retail Container	5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Other <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			

Section - IV			
1. Contact Point [Complete items directly below for identification of individual to be contacted, if necessary, to process this application.]			
Name Kaci Rosario	Title Product Safety Supervisor	Telephone No. (include Area Code) (973) 515-1841	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			5. Date Application Received  (Stamped)
2. Signature 	3. Title Product Safety Supervisor		
4. Typed Name Kaci Rosario	5. Date March 20, 2009		

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ENVIRONMENTAL MATTERS DEPARTMENT

90 EAST HALSEY ROAD  
PARSIPPANY, NJ 07054  
TELEPHONE: (973) 515-1841  
FACSIMILE: (973) 515-3244

March 20, 2009

Document Processing Desk (NOTIF)  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202-4501

RE: Liquid Copper Sulfate (EPA Reg. No. 83918-4)  
Notification of Alternate Brand Names (ABN)

Dear Sir or Madam:

General Chemical, LLC is submitting notification per PR Notice 98-10 to make minor label changes. The following alternate brand name is being added for the registered product, Liquid Copper Sulfate (EPA Reg. No. 83918-4):

*General Chemical™ Liquid Copper Sulfate 25%*

This label has also been updated to include the new EPA registration number and EPA establishment number, following the recent pesticide registration transfer from Bay Chemical and Supply Company to General Chemical, LLC.

The following documents are attached:

EPA Form 8570-1  
One copy of labeling with alternate brand name

If you have any questions or require any additional information, please contact me at (973) 515-1841 or by e-mail at [krosario@genchemcorp.com](mailto:krosario@genchemcorp.com).

Best regards,

A handwritten signature in cursive script that reads "Kaci Rosario".

Kaci Rosario  
Product Safety Supervisor

ENCLOSURE

# LIQUID COPPER SULFATE

[Alternate Brand Name: Aqua-Ox 446, General Chemical™ Liquid Copper Sulfate 25%]

Certified to ANSI/NSF Standard 60

## NOTIFICATION

APR 24 2009

### Active ingredient:

Copper sulfate pentahydrate\* (CAS # 7758-99-8).....25.0%

Inert ingredient:.....75.0%

TOTAL: 100.0%

\*COPPER AS METALLIC NOT LESS THAN 6.30%

Density 9.85 pounds per gallon

## KEEP OUT OF REACH OF CHILDREN

## DANGER

FIRST AID	
If inhaled:	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
If on skin or clothing:	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
If in eyes:	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
If swallowed:	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-424-9300 for emergency medical treatment information.	
<p align="center"><b>NOTE TO PHYSICIAN</b></p> <p align="center">Probable mucosal damage may contraindicate the use of gastric lavage.</p>	

**PRECAUTIONARY STATEMENTS  
HAZARDOUS TO HUMANS AND DOMESTIC ANIMALS**

**DANGER**

**CORROSIVE.** Causes eye damage and irritation to the skin and mucous membrane. Harmful or fatal if swallowed. Do not get in eyes, on skin or on clothing. Do not breathe dust or spray mist. May cause skin sensitization reactions to certain individuals. Applicators and other handlers must wear: long-sleeved shirt and long pants, waterproof gloves, shoes plus socks, and protective eyewear.

Consult MSDS for additional information

Maximum use for potable water application is 16 milligrams per liter (1 ppm metallic copper equivalent)

Product is toxic to fish UNLESS used specifically according to directions. See side panel for specific pesticide use directions.

**Manufactured by:  
General Chemical, LLC  
5302 County Road 2047  
Odem, TX 78380**

**EPA REG. NO. 83918-4  
EPA EST. NO. 83918-TX-001**

### ENVIRONMENTAL HAZARDS

This product is toxic to fish. Direct application of Copper Sulfate to water may cause a significant reduction in populations of aquatic invertebrates, plants and fish. Fish toxicity generally decreases when the hardness of water increases. Do not contaminate water by cleaning of equipment or disposal of wastes. Consult your local State Fish and Game Agency before applying this product to public waters. Permits may be required before treating such waters.

**ENDANGERED SPECIES RESTRICTIONS:** It is a violation of Federal Laws to use any pesticide in a manner that results in the death of an endangered species or adverse modification of their habitat. The use of this product may pose a hazard to certain federally designated endangered species known to occur in specific areas within these counties:

California	Solano Grass	EPA/ES-85-13	Solano
Tennessee	Slackwater Darter	EPA/ES-85-04	Lawrence
			Wayne
	Freshwater Mussels	EPA/ES-85-07	Hancock
			Claiborne
			Hawkins
			Sullivan
Alabama	Slackwater Darter	EPA/ES-85-05	Lauderdale
			Limestone
			Madison
Virginia	Freshwater Mussels	EPA/ES-85-06	Grayson
			Smyth
			Scott
			Washington
			Lee

\*\*\*PLEASE NOTE\*\*\* Before using Liquid Copper Sulfate in the above counties you must obtain the EPA bulletin specific to your area. This Bulletin identifies areas within these counties where the use of this pesticide is prohibited, unless specified otherwise. The EPA Bulletin is available from your County Agricultural Extension Agent, the Endangered Species Specialist in your state Wildlife Agency Headquarters, or the appropriate Regional Office of the U.S Fish and Wildlife Service. THIS BULLETIN MUST BE REVIEWED PRIOR TO PESTICIDE USE.

**DIRECTIONS FOR USE**

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

### STORAGE AND DISPOSAL

**PROHIBITIONS:** Do not contaminate water, food or feed by storage or disposal. Open burning and dumping is prohibited. Do not re-use empty container.

**STORAGE:** Keep pesticide in original container. Do not put concentrate or dilutions of concentrate on food or drink containers.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Empty drums in accordance with use directions. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about ten percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Reseal and offer for reconditioning or recycling. Consult federal, state or local disposal authorities for approved alternative methods.

**GENERAL INSTRUCTIONS FOR USE**

Water hardness, temperature of the water, the type and amount of vegetation to be controlled, and the amount of water flow are to be considered in using Copper Sulfate to control algae. Begin treatment soon after plant growth has started. If treatment is delayed until a large amount of algae is present, larger quantities of Copper Sulfate will be required. Algae are difficult to control with Copper Sulfate when water temperatures are low or water is hard. Larger quantities of Copper Sulfate will be required to kill and control algae in water that is flowing rather than in a body of stagnant water. If possible, curtail the flow of water before treatment and hold dormant for approximately three days after treatment or until the algae have begun to die. It is usually best to treat algae on a sunny day when the heavy mats of filamentary algae are most likely to be floating on the surface where it can be sprayed directly. If there is some doubt about the concentration to apply, it is generally best to start with a lower concentration and to increase the concentration until the algae is killed. **NOTE:** If treated water is to be used as a source of potable water, the metallic copper residual must not exceed 1 ppm (4 ppm copper sulfate pentahydrate). Do not exceed 16 ppm Liquid Copper Sulfate.

**CALCULATIONS FOR THE AMOUNT OF WATER IMPOUNDED AND FOR THE AMOUNT OF LIQUID COPPER SULFATE TO BE USED:** Calculate water volume as follows: (1) Obtain surface area by measuring of regular shaped ponds or mapping of irregular ponds or by reference to previously recorded engineering data or maps. (2) Calculate average depth by sounding in a regular pattern and taking the mean of these readings or by reference to previously obtained data. (3) Multiply surface area in feet by average depth in feet to obtain cubic feet of water volume. (4) Multiply surface area in acres by average depth in feet to obtain total acre-feet of water volume.

**CALCULATE WEIGHT OF WATER TO BE TREATED AS FOLLOWS:** (1) Multiply volume in cubic feet by 62.44 to obtain total pounds of water, or (2) Multiply volume in acre feet by 2,720,000 to obtain pounds of water.

**CALCULATIONS OF ACTIVE INGREDIENT TO BE ADDED:** To calculate the amount of Liquid Copper Sulfate needed to achieve the recommended concentration, multiply the weight of water by the recommended concentration of Liquid Copper Sulfate. Since recommended concentrations are normally given in parts per million (ppm), it will first be necessary to convert the value in parts per million to a decimal equivalent. For example, 8 ppm is the same as 0.000008 when used in this calculation. Therefore, to calculate the amount of Liquid Copper

Sulfate to treat 1 acre-foot of water with 8 ppm Liquid Copper Sulfate (LCS), the calculation would be as follows:

$$0.000008 \times 2,720,000 = 21.75 \text{ pounds} \times \frac{1 \text{ gal LCS}}{9.85} = 2.2 \text{ gal LCS}$$

The following applies for waters segregated for Municipal Water Utilities in treatment of potable water only. Dosages to control algae in impounded waters, ponds, and reservoirs should be calculated per million gallons. 1 MMg x 8.344 pounds per gallon x 8 ppm = 66.75 pounds liquid copper sulfate per MMg raw water (maximum use) x 1 gal per 9.85 pounds = 6.75 gallons Liquid Copper Sulfate per MMg raw water (recommended use). This is the equivalent of 8 parts per million (ppm) Liquid Copper Sulfate which delivers ½ ppm active copper. USEPA Lead and Copper Rule maximum is 1.3 ppm. For flowing systems such as raw water intake, use same dosage ratio so that the maximum usage remains 6.75 gallons Liquid Copper Sulfate per day per MMg per day per raw water. Successful algae treatment can be accomplished at much lower dosages. Treatment dosages can be as low as 1/20 the maximum or 0.68 gallon per MMg water. To control algae in impounded waters, lakes, ponds and reservoirs: There are several methods by which to apply Liquid Copper Sulfate to impounded water. The most satisfactory and simplest method is to pump injection at the intake pipes located between irrigation canal and reservoir. Bulk Copper sulfate tank should be metered and regulated to coincide with the start of the irrigation pump. Dosage not to exceed 8 ppm CuSO<sub>4</sub> which delivers ½ ppm active copper.



## LIQUID COPPER SULFATE (LCS) REQUIRED FOR TREATMENT OF DIFFERENT GENERA OF ALGAE

The genera of algae listed below are commonly found in waters of the United States. Use the lower recommended rate in soft waters (less than 50 ppm, methyl orange alkalinity and the higher concentration in hard water above 50 ppm alkalinity).

Always consult State Fish and Game Agency before applying this product to municipal waters.

ORGANISM	1.0 – 2.0 ppm LCS	2.0 – 4.0 ppm LCS	4.0 – 6.0 ppm LCS	6.0 – 8.0 ppm LCS*
Cyanophyceae (Blue-green)	Anabaena	Cylindrospermum	Nostoc	Calothrix
	Anacystis	Oscillatoris	Phormidium	Symploca
	Aphanizomenon	Plectonema		
	Gloeotrichia			
	Gomphosphaeria			
	Polycystis			
	Rivularia			
	Closterium	Botryococcus	Chlorella	Ankistrodesmus
	Hydrodictyon	Cladophora	Crucigenia	Chara
	Spirogyra	Coelastrum	Desmidium	Nitella
Chlorophyceae (Green)	Ulothrix	Draparnaldia	Golenkinia	Scenedesmus
		Enteromorpha	Oocystis	
		Gloeocystis	Palmella	
		Microspora	Pithophora	
		Tribonema	Staurastrum	
		Zygnema	Tetraedron	
		Gomphonema	Achnanthes	
		Nitzschia	Cymbella	
		Stephanodiscus	Nudum	
		Synedra		
Diatomaceae (diatoms)	Asterionella	Tabellaria		
	Fragilaria	Ceratium	Chlamydomonas	Eudorina
	Melosira	Cryptomonas	Hawmatococcus	Pandorina
	Navicula	Euglena	Peridinium	
Protozoa (Flagellates)		Glenodinium		
	Dinobryon	Mallomonas		
	Synura			
	Uroglena			
	Volvox			

\*1.0 – 2.0 ppm LCS = 0.28 – 0.55 gals/acre ft.

\*2.0 – 4.0 ppm LCS = 0.55 – 1.10 gals/acre ft.

\*4.0 – 6.0 ppm LCS = 1.10 – 1.66 gals/acre ft.

\*6.0 – 8.0 ppm LCS = 1.66 – 2.21 gals/acre ft.

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NOTICE: General Chemical, LLC warrants that this product in its unopened package conforms to the chemical description on the label. THERE ARE NO OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. This warranty does not extend to the handling or use of this product contrary to label instructions or under abnormal conditions or under conditions not reasonably foreseeable to seller and buyer assumes all risk of any such use.

**NOTIFICATION**

APR 24 2009

