

JUL 29 1993

James Yowell
Griffin Corporation
P.O. Box 1847
Valdosta, GA 31603

Dear Mr. Yowell:

Subject: Revised Labeling - Add Use on Wild Rice
Blue Viking Copper Sulfate Star Shine Crystals
EPA Registration No. 1812-313
Your Submission Dated July 16, 1993

The amendment referred to above, submitted in connection with registration under section 3(c)(7)(A) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), is acceptable provided that you:

1. Submit/cite all data required for registration/-reregistration of your product under FIFRA section 3(c)(5) or 4(a) when the Agency requires all registrants of similar products to submit such data.

2. Submit one (1) copy of your final printed labeling before you release the product for shipment. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

This acceptance of your label does not relieve you of your obligation to comply with the Worker Protection Standard (WPS). Under the WPS labeling regulations at 40 CFR Part 156, Subpart K, § 156.200(c)(3), you are prohibited from distributing or selling any product within the scope of the WPS requirements after April 21, 1994, without amended labeling accepted by the Agency.

Sincerely yours,



Cynthia Giles-Parker
Product Manger (22)
Fungicide Herbicide Branch
Registration Division (H7505C)

Enclosure

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BLUE VIKING® STAR LIGHT CRYSTALS

Active Ingredient	
Copper Sulfate Pentahydrate	99%
Inert Ingredients.	1%
Total	100.0%

Copper as metallic not less than 25.2%

**KEEP OUT OF REACH OF CHILDREN
DANGER - PELIGRO
STATEMENT OF PRACTICAL TREATMENT**

IF ON SKIN: Wash with plenty of soap and water. Get medical attention.

IF INHALED: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention.

IF IN EYES: Flush with plenty of water. Call a physician.

IF SWALLOWED: Drink promptly a large quantity of milk, egg white, gelatin solution, or if these are not available, large quantities of water. Avoid alcohol.

NOTE TO PHYSICIAN: Probably mucosal damage may contraindicate use of gastric lavage.

PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que le etiqueta haya sido explicado ampliamente.

GRIFFIN CORPORATION
Copper Chemicals Divison
Casa Grande, Arizona 85222

EPA REG. NO. 1812-313
EPA EST. NO. 45457-AZ-1
CAS NO. 7758-99-8

ACCEPTED
with COMMENTS
In EPA Letter Dated:

Net Wt. 50 lbs.

JUL 29 1993

Under the Federal Insecticide
Fungicide, and Rodenticide Act
registered, for the pesticide
classified under EPA Reg. No.
1812-313

JAN 26 1993

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
DANGER**

Corrosive. Causes irreversible eye damage. Causes severe skin irritation. Harmful if absorbed through the skin or inhaled. May cause skin sensitization reactions in certain individuals. Avoid contact with the skin, eyes, or clothing. Avoid breathing dust. Protective clothing, including goggles, should be worn. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. Direct application of copper sulfate pentahydrate to water may cause a significant reduction in populations of aquatic invertebrates, plants and fish. Do not treat more than one half of lake or pond at one time in order to avoid depletion of oxygen from decaying vegetation. Allow 1 to 2 weeks between treatment for oxygen levels to recover. Trout and other species of fish may be killed at application rates recommended on this label, especially in soft or acid waters. However, fish toxicity generally decreases when the hardness of water increases. Do not contaminate water by cleaning or disposal of wastes. Consult your State Fish and Game Agency before applying this product to public waters. Permits may be required before treating such waters.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

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 by use 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: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RE-ENTRY STATEMENT

Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.

Do not enter treated area without protective clothing until sprays have dried.

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Because certain states may require more restrictive re-entry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. (Indicate specific oral warnings which inform workers of areas or fields that may not be entered without specific protective clothing, period of time field must be vacated and appropriate actions to take in case of accidental exposure). When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings can not be understood by workers. Written warnings must include the following information: DANGER. Area treated with Blue Viking Star Light Crystals on (date of application). Do not enter without appropriate protective clothing until sprays have dried. In case of accidental exposure see Statement of Practical Treatment.

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GENERAL DIRECTIONS

Do not apply this product through any type of irrigation system. Use Blue Viking Star Light Crystals as noted below. When using Blue Viking Star Light Crystals to control algae, there are many factors to consider, water hardness, temperature of the water, kind and amount of vegetation to be controlled and the amount of water flow. Algae can be controlled more easily and effectively if treatment with copper sulfate pentahydrate is made soon after plant growth has started. Small amounts of copper sulfate pentahydrate can effectively control algae in water. However, if treatment is delayed until a large amount of algae is present, larger quantities of copper sulfate pentahydrate may be required. Control of algae in water systems is not always permanent. Usually algae is more difficult to control with copper sulfate pentahydrate when water temperatures are low. The dose rates recommended for Blue Viking Star Light Crystals are based on water temperatures of 60°F or above. Larger quantities of copper sulfate pentahydrate will also be required in hard water. Normally, larger quantities of copper sulfate pentahydrate will be required to kill algae in water which is flowing 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 plants have begun to die. When preparing a copper sulfate pentahydrate solution in water, it is best that the mixing container be made of glass or plastic or if a metal container is used, that it be either painted, enameled, or copper-lined. The use of a galvanized container causes a chemical reaction to take place by which the copper displaces the galvanized coating of the container. 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 this concentration until the algae is killed.

**CALCULATIONS FOR THE AMOUNT OF WATER IMPOUNDED
AND FOR THE AMOUNT OF COPPER SULFATE PENTAHYDRATE 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.

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).

ALGAECIDE

LAKES AND PONDS - Blue Viking Star Light Crystals kills Filamentous and Planktonic Algae in lake or pond water. Apply at a rate of 3-6 pounds per acre foot of water (0.27 ppm - 0.54 ppm (Cu) in the treated water). Apply as a uniform surface spray dissolved in at least 3-5 gallons of water using boat, plane or other pressurized spray device. Apply twice yearly or as needed. Determine the number of acre feet of water to be treated. An acre foot of water is equal to one acre of water one foot deep which equals 328,000 gallons or 2,720,000 pounds.

CONTROL OF ALGAE IN RICE/WILD RICE FIELDS - Blue Viking Star Light Crystals is recommended for control of Filamentous and Planktonic Algae in rice/wild rice fields. Blue Viking Star Light Crystals should be applied at a rate of 10 to 15 pounds per acre using boat, plane or other professional device. Use at first sign of algae after the field has been flooded to a depth of 6-8 inches. Blue Viking Star Light Crystals is especially graded for maximum solubility in this volume of water.

CONTROL OF TADPOLE SHRIMP

Blue Viking Star Light Crystals is recommended for the control of tadpole shrimp in rice fields. Blue Viking Star Light Crystals should be applied at a rate of 5 to 10 pounds per acre either dry or dissolved in water using boat, plane or other professional device. Use at the first indication of infestation after the field has been flooded and continue as needed.

SEWER TREATMENT - ROOT DESTROYER

For partial stoppage add 0.5 pound of Blue Viking Star Light Crystals to sewer or drain and flush toward blockage with 5 gallons of water. Repeat at 6 month intervals to prevent growth of new roots. For complete stoppage, physically remove the root blockage and repeat as above.

**WOOD TREATMENT
(green, peeled posts)**

Fungus, Decay, Rot: Prepare a solution of 18 pounds of sodium chromate in each 26 gallons of water to be used and a separate second solution of 18 pounds of copper sulfate pentahydrate in each 24 gallons of water to be used; soak the peeled, green posts, butt end down first in the copper sulfate pentahydrate solution for 3 days, then butt end down in the sodium chromate solution for 2 days, and finally turn the post upside down in the sodium chromate solution for 1 additional day, remove and rinse posts with clear water.

BORDEAUX MIXTURE

How to Understand Bordeaux Formulations: If the Bordeaux Mixture instructions reads 10-10-100, the first figure means the number of pounds of copper sulfate pentahydrate. The second figure means the pounds of hydrated spray lime, and the third figure, the gallons of water to be used. Use as a full coverage spray to runoff.

How to Prepare a Bordeaux Mixture: To prepare a Bordeaux mixture, fill a tank with water, one quarter full. Then with agitator running, mix in Blue Viking Star Light Crystals

through a copper, bronze, stainless steel or plastic screen. Add water so the tank is three quarters full. Mix in the hydrated spray lime through the screen and finish filling the tank with water.

CROP USE RECOMMENDATIONS

ALMONDS, APRICOTS, PEACHES, NECTARINES: Shot Hole Fungus - Prepare a 10-10-100 Bordeaux and apply as a dormant spray in late fall or early spring.

ALMONDS, APRICOTS, CHERRIES, PEACHES, NECTARINES, PLUMS, PRUNES: Brown Rot Blossom Blight - Prepare a 10-10-100 Bordeaux and apply when buds begin to swell.

SOUR CHERRIES: Leaf Spot - Prepare a 10-10-100 Bordeaux. Apply as a full coverage spray after petal fall or as recommended by the State Extension Service.

LEMONS, ORANGES, GRAPEFRUIT: Phytophthora Brown Rot - Prepare a 3-4.5-100 Bordeaux where there is no history of copper injury or a 3-2-6-100 (Zinc Sulfate-Copper Sulfate Pentahydrate-Hydrated Lime-Gallons of water) Bordeaux. Spray 6 gallons on skirt of tree 3 to 4 feet high and 2 to 4 gallons on trunk and ground under tree. If P. Hibernails is present, use 10 to 25 gallons to completely cover each tree. Apply in November or December just before or after first rain. In severe Brown Rot season, apply second application in January or February.

LEMONS, ORANGES, GRAPEFRUIT: Septoria Fruit and Leaf Spot, Central California and Brown Rot and Zinc and Copper Deficiencies - Prepare a 3-2-6-100 Bordeaux and use 10 to 25 gallons to completely cover each tree. Apply in October, November or December before or just after first rain.

WALNUTS: Walnut Blight - Apply 15 pounds with 10 pounds of lime in 100 gallons of water. Make application in early pre-bloom before catkin blooms are showing (10-20% pistillate) before or after rain. Use only if Bordeaux mixture has been shown to be non-phytotoxic in your area. If desired, add one-half gallon summer oil emulsion per 100 gallons of water. CAUTION: Addition of summer oil emulsion to pre-bloom and early bloom sprays may result in plant injury.

SUGGESTED USES

AGRICULTURE: Use in Bordeaux Mixture sprays as a fungicide to control plant diseases, or in fertilizers to correct copper deficiencies in soils (See directions for use). Copper sulfate pentahydrate is also a valuable dietary supplement in mixed feeds for beneficial animals. Please consult your State Agricultural Experiment Station or State Extension Service for guidance in preparing dosages and formulas.

WATER SEWAGE & WOOD TREATMENT: (See directions for use) **Water Treatment** - Kills algae in field, lake and pond water. **Sewer Treatment** - Destroys roots and fungus growth in sewers and storm drains. **Wood Treatment** - Use copper sulfate pentahydrate with certain other chemicals as a preservative for wooden fence posts.

WARRANTY STATEMENT

GRIFFIN warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for purposes stated on such label only when used in accordance with directions under normal use conditions. It is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of GRIFFIN. In no case shall GRIFFIN be liable for consequential, special or indirect damages resulting from the use or handling of this product. All such risks shall be assumed by the Buyer. GRIFFIN MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

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