



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

SEP 28 1993

James Yowell  
Senior Regulatory Specialist  
Griffin Corporation  
P.O. Box 1847  
Rocky Ford Road  
Valdosta, GA 31603-1847

) Dear Mr. Yowell:

Subject: Label Amendment  
Komeen Aquatic Herbicide  
EPA Reg. No. 1812-312  
Your Letter Dated 07/26/93

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable subject to the comments listed below. A stamped copy of the label is enclosed for your records. Five copies of the finished labeling must be submitted prior to releasing the product for shipment.

- ) 1. Nalquatic® has not been cleared for application to growing crops under 40 CFR, Part 180. Delete all references to this product from your label.

If you have any questions, please contact Terri Stowe of my staff at (703) 305 - 6117.

Sincerely yours,

/s/

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

Enclosure

Sheet 289

**KOMEEN®**

**Aquatic Herbicide**

**Active Ingredient**

\*Copper as elemental . . . . . 8%

Inert Ingredients . . . . . 92%

Total . . . . . 100%

\*From copper-ethylenediamine complex

One gallon contains 0.8 pounds of metallic copper

✓ For use in Slow Moving or Quiescent Bodies of Water Including:  
✓ Golf Course, ✓ Ornamental, ✓ Fish, and Fire Ponds; ✓ Fresh Water Lakes  
✓ Fish Hatcheries and ✓ Potable Water Reservoirs.

**CAUTION**

**KEEP OUT OF THE REACH OF CHILDREN**

**SEE PRECAUTIONARY STATEMENTS AND**

**STATEMENT OF PRACTICAL TREATMENT ON BACK PANEL**

Areas treated with KOMEEN may be used for fishing, swimming,  
drinking and watering livestock immediately after treatment.

**Net Contents: 2 1/2 Gallons**

**GRIFFIN CORPORATION  
Valdosta, GA 31601**

**ACCEPTED  
with COMMENTS  
In EPA Letter Dated:**

**EPA REG. NO. 1812-312  
EPA EST. NO. 8901-TX-1**

SEP 28 1993

Herbicide  
FIFRA Act  
EPA Reg. No.

1812-312

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**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION**

✓ Harmful if swallowed. Avoid contact with skin and eyes. Wash thoroughly with soap and water after handling. Do not apply this product in a manner as to directly expose workers or other persons.

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**STATEMENT OF PRACTICAL TREATMENT**

✓ **IF SWALLOWED:** Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

) ✓ **IF ON SKIN:** Wash with plenty of soap and water. Get medical attention if irritation persists.

✓ **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. Get medical attention if irritation persists.

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**ENVIRONMENTAL HAZARDS**

✓ This product may be toxic to fish. Trout and other species of fish may be killed at application rates recommended on this label. Generally, fish toxicity is reduced as water hardness increases. Consult State Fish and Game Agency before applying this product to public waters.

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**STORAGE AND DISPOSAL**

Store in a cool, dry place

✓ **PESTICIDE DISPOSAL:** Do not contaminate water, food or feed by storage and disposal. Wastes resulting from the use of this product may be disposed of on site or an approved waste disposal facility.

✓ **CONTAINER DISPOSAL:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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GENERAL INFORMATION

KOMEEN provides effective control of ✓Hydrilla (Hydrilla verticillata), ✓Brazilian Elodea (Egeria densa), ✓Southern\Northern Naiads (Najas Sp.), Coontail (Ceratophyllum demersum), Elodea (Elodea canadensis), Water Lettuce (Pistia Stratioties) and Water Hyacinth (Eichhornia crassipes). Under certain water quality conditions, such as low water hardness, KOMEEN may also control Eurasian Watermilfoil (Myriophyllum verticillatum), Sago Pondweed (Potamogeton pectinatus), Northern Naiads and American Pondweed (Potamogeton nodosus). KOMEEN may be applied to slow moving or quiescent bodies of water including: ✓potable water reservoirs and ✓recreation lakes; ✓golf course, ✓ornamental, ✓fish, and fire ponds.

Handwritten mark: a checkmark and the word "Special" written vertically.

KOMEEN may be tank mixed with other herbicides, such as Diquat®, Sonar® and Endothall®, for control of a broader weed spectrum (refer to the directions for use for specific directions). Refer to all cautions and precautions of products used with KOMEEN.

The effectiveness of KOMEEN is based upon its penetration into plant tissues; therefore, proper placement of the product is essential. When weeds are actively growing, apply KOMEEN to the area where the greatest concentration of foliage is located in a manner which will deposit the herbicide on leaf surfaces. The activity of KOMEEN may be reduced if silt or algae are present in the water or cover the weeds. If algae is present or covers the weeds, the effectiveness of KOMEEN may be improved by tank mixing with an algicide, such as K-TEA®.

KOMEEN may be applied by aircraft, sprayer or spray boat as a direct surface spray, direct subsurface spray through weighted hoses, invert emulsion, for polymer applications (see specific instructions and use chemicals cleared for application to growing crops) as appropriate. As a surface or subsurface application, Komeen may be diluted or applied directly undiluted, whichever is applicable to ensure uniform coverage of the area to be treated. KOMEEN requires a minimum of 12-24 hours of contact with the target weed in order to provide effective control. The aquatic weeds will drop below the surface within 3-7 days after treatment. Complete effect of the treatment will be observed within 4-6 weeks. In heavily infested areas, a second application after 12 weeks may be necessary.

Undiluted KOMEEN or concentrations above 1.0 ppm Cu<sup>++</sup> may be injurious to crops, grass, ornamentals and other foliage. Do not apply in such a way that the concentrated product comes in contact with crops, ornamentals, grass or desirable plants. Apply only as specified on the label.

In areas heavily infested with aquatic weeds or if water temperature is high, treatment can result in oxygen loss from decomposition of dead vegetation. This loss can cause fish

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suffocation. To minimize this hazard, treat 1/3 to 1/2 of the water area in a single operation. Add only enough KOMEEN for the actual area being treated. Wait 10-14 days before treating the remaining area. Begin treatment along the shore and proceed outward in bands to allow fish to move into untreated areas.

Do not apply this product through any type of irrigation system.

**DIRECTIONS FOR USE**

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

**Application Rates for Aquatic Weed Control in Quiescent or Slow Moving Water**

<u>Weed Pest</u>	<u>Copper Level Required For Control (ppm)*</u>
<u>Hydrilla verticillata</u> (Hydrilla)	0.75 - 1.0
<u>Suppression of Eichhornia crassipes</u> (Water Hyacinth) (Suppression only)	0.75 - 1.0
<u>Egeria densa</u> (Brazilian Elodea)	0.50 - 0.75
<u>Najas Sp.</u> (Southern\Northern Naiads)	0.50 - 1.0
<u>Ceratophyllum demersum</u> (Coontail)	0.50 - 1.0
<u>Elodea canadensis</u> (Elodea)	0.50 - 1.0
<u>Myriophyllum verticillatum</u> (Eurasian Watermilfoil)	** 0.75 - 1.0
<u>Potamogeton pectinatus</u> (Sago Pondweed)	** 0.75 - 1.0
<u>Potamogeton nodosus</u> (American Pondweed)	** 0.75 - 1.0
<u>Pistia stratiotie</u> (Water Lettuce)	0.75 - 1.0

\* Use lower rate in light infestations and higher rate for heavier infestations.

\*\* Control only in low water hardness.

Depth of Water (Feet)	Gallons of KOMEEN per Acre to Achieve the Desired Copper Content (ppm Cu++)		
	<u>0.50</u>	<u>0.75</u>	<u>1.00</u>
1	1.67	2.50	3.34
2	3.34	5.00	6.67
3	5.00	7.50	10.00
4	6.67	10.00	13.34

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NOTE: To determine the amount of KOMEEN needed to treat a body of water with an average depth not given above, use the following calculation:

Desired Concentration of  $Cu^{++}$  (ppm) x Ave. Depth of Water (ft) x  
3.34 = Gallons Komeen

Application Rates for Static or Minimal Flowing Water Situations

	Gallons Per Surface Acre
Hydrilla verticillata	8-16
Egeria (Brazilian elodea)	6-12
Southern\Northern Naiads	6-12

Use lower rates in shallow water (1-3 feet) and for light infestations. Use higher rates for deeper water and for heavier weed infestations.

METHODS OF APPLICATION

**SPRAY BOAT**

**Direct Surface Application:** Surface applications may be made near shorelines or in shallow water (4 feet or less).

**Direct Subsurface Application:** In deep water (4 feet or more), make a subsurface application of KOMEEN at recommended rates through weighted trailing hoses where the greatest concentration of foliage exists, and where deposit on leaf surfaces will be assured. Do not drag hoses on the bottom.

**Invert Application:** KOMEEN will invert easily using either tank mix or bi-fluid mixer techniques. Invert applications should be made through weighted hoses dragged below the surface of the water. The invert emulsion will form tiny droplets which will adhere to the submerged vegetation and release the herbicide in close proximity to the plant. Do not drag hoses on the bottom.

The emulsifier should release KOMEEN at a rate fast enough to be quickly absorbed by the plant tissue but not so fast that it can be washed away from the treatment area. The invert emulsion has a heavy viscous consistency much like mayonnaise.

Apply KOMEEN in an appropriate invert system. The ratios given below should be used only as a guide in the preparation of a KOMEEN invert emulsion. It is best to test the invert system to be used prior to application to ensure proper results. The tightness and weight of the invert may be altered by slight changes in the

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suggested ratios.

**Approximate ratios for tank mix systems:**

80 gallons water : 3 gallons invert oil : 8 gallons KOMEEN.

**Approximate ratios for bi-fluid mixer systems:**

60 gallons water : 3 gallons invert oil : 16 gallons KOMEEN.

For heavy growth, invert application may result in streaking effect due to localized control where the hoses were drug. For those areas, a direct application is preferred. Repeating an application of KOMEEN to a treated area within a short time after the first treatment may not increase effectiveness.

**Polymer Application:** A polymer may be added to KOMEEN or a KOMEEN/Water premix to improve sinking, deposition and retention of the spray. Consult the manufacturer's recommendations regarding the use of a polymer for improved aquatic weed control.

**SPRAY EQUIPMENT**

**Direct Surface Application:** Surface application may be effective near shorelines or in shallow water.

**Polymer Application:** Apply the recommended rate of KOMEEN in 100-400 gallons of total spray solution per surface acre. Add the recommended rate of sinking agent to the spray solution. Maintain constant agitation during addition of the polymer and continue through application. The polymer adheres to KOMEEN and forms strings that sink and stick to the aquatic vegetation. When treating slow moving water, the spray rig should move at a slow pace (4-5 mph) counter to the flow of water. Apply the spray solution to the area of densest foliage.

**AIRCRAFT APPLICATION**

**Polymer Application:** Apply the recommended rate of KOMEEN in 20 gallons of total spray solution per surface acre. Add the recommended rates of a drift control or sinking agent to the spray solution. Maintain constant agitation during addition of the polymer and continue through application. When treating slow moving water, apply the spray solution counter to the flow of water.

**TANKMIX**

**KOMEEN + Diquat Tankmix:** KOMEEN can be mixed with Diquat (Diquat dibromide (1,2-a:2'1'-c) pyrazinedium dibromide 35.3%) and be applied by helicopter for control of Bladderwort, Curlyleaf Pondweed, Leafy Pondweed, Richardson Pondweed, Small Pondweed, Cattail, American Elodea, Duckweed, Water lettuce, Eurasian Watermilfoil, Floatingleaf Pondweed, Coontail, Common Salvinia,

Southern Naiad, Slender Naiad, Sago Pondweed, Pennywort, Hydrilla and Water Hyacinth in accordance with the more restrictive of the label limitations and precautions. No label dosage rates should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing. Mix 20 gallons of KOMEEN with 10 gallons of Diquat and 2 gallons of Nalquatic® per 100 gallons of water. Apply at the rate of 20 gallons per acre (equivalent of 4 gallons KOMEEN, 2 gallons Diquat and 0.4 gallons Nalquatic® per surface acre). Algae on the plant surface may interfere with uptake of herbicides; therefore, use K-TEA algicide prior to this application to remove excess algae and improve control.

**KOMEEN + Endothall Tankmix:** KOMEEN can be mixed with Endothall [(Dipotassium salt of Endothal 10.1 - 40.3%) or (mono(N,N-dimethylalkylamine salt of endothall 53.0%)] and be applied as a uniform surface spray or injected under the waters surface for control of Najas Elodea, Coontail, Potamogeton, Milfoil, Zannichellia, Vallisneria, Cladophora, Pithophora, Spirogyra, Chara, American Pondweed and Sago Pondweed in accordance with the more restrictive of the label limitations and precautions. No label dosage rates should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing. Mix 20 gallons of KOMEEN with 15 gallons of Endothall in 100 gallons of water. Apply at the rate of 20 gallons per surface acre (equivalent to 4 gallons KOMEEN, 3 gallons Endothall). Algae on the plant surface may interfere with uptake of herbicides; therefore, use K-TEA algicide prior to this application to remove excess algae and improve control.

**KOMEEN + Sonar A.S. Tankmix:** KOMEEN can be mixed with Sonar A. S. (fluridone 41.7%) and be applied as a uniform surface spray or injected under the waters surface for control of Common duckweed, Spatterdock, Bladderwort, Fanwort (Cabomba), Watermilfoil, Paragrass, Common Elodea, Brazilian Elodea, Najas Elodea, Naiad, Coontail, American Pondweed and Sago Pondweed in accordance with the more restrictive of the label limitations and precautions. No label dosage rates should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing. Mix 20 gallons of KOMEEN with 1.5 quarts of Sonar A.S. in 100 gallons of water. Apply at the rate of 20 gallons per surface acre (equivalent to 4 gallons KOMEEN, 0.3 quarts Sonar A.S.). Algae on the plant surface may interfere with uptake of herbicides; therefore, use K-TEA algicide prior to this application to remove excess algae and improve control.

**NOTICE OF WARRANTY**

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

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risks inherently associated with use of this product. 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.

Diquat® is a registered trademark of Valent USA Corporation

Endothall® is a registered trademark of Atochem Corporation

K-TEA™ is a trademark of Griffin Corporation

KOMEEN® is a registered trademark of Griffin Corporation

Nalquatic® is a registered trademark of Nalco Corporation

Sonar® is a registered trademark of DowElanco Products