Clean-Flo®

LAKE CLEANSER

...Removes nutrients required by aquatic plants
...Clarifies water

ACCEPTED
NOV 13 1975
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 33436-1

General Information

Use: Clean-Flo Lake Cleanser, under field conditions, has been found to be effective in removing or locking up phosphates and iron from stationary, non-flowing waters, when the lake or pond is properly aerated by natural or artificial means. This results in a natural decline of most algae and aquatic weeds, especially Naiad, Elodea, Coontail, Potamogeton, Water Milfoil, and Filamentous algae. Not recommended for Duckweed, Water Meal, Cattail, Bulrush, Waterlily, or aquatic grasses.

Directions for use: Clean-Flo Lake Cleanser is a water soluble material for causing phosphates to become unavailable for aquatic plant consumption, resulting in a decline in plant growth. This material is to be sold only to applicators licensed by Clean-Flo Laboratories, Inc. and should only be applied in accordance with directions in Clean-Flo Technical Bulletin LC-2 under the supervision of trained personnel representing Clean-Flo Laboratories, Inc.

Active Ingredients	
Calcium sulfate, dihydrate	74.0 %
Aluminum sulfate, octadecahydrate	15.9 %
Boric acid	0.9 %
Inert Ingredients	9.2 %

Net Weight: 49.5 lb.

Manufactured by Clean-Flo Laboratories, Inc., 4342 Shady Oak Road, Hopkins, Minnesota 55343

PATENT PENDING EPA Reg. No. 33436-1

CAUTION: KEEP OUT OF THE REACH OF CHILDREN. Do not reuse Container. Destroy when empty.

Clean-Flo Laboratories, Inc.
4342 Shady Oak Road
Hopkins, Minn. 55343

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Proprietary Information -- Confidential
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INSTRUCTIONS FOR USE OF CLEAN-FLO LAKE CLEANSER

Introduction

While the efficacy of calcium to reduce levels of available phosphate in eutrophic waters has been well documented, it also has been shown that the calcium-phosphate bond can be broken or altered by acidic waters -- as by those which contain high levels of carbon dioxide. To increase the effectiveness of Clean-Flo Lake Cleanser, it is first necessary to properly condition the bottoms of eutrophic lakes, through the use of aeration. Such treatment will remove acid-producing anaerobic bacteria and greatly reduce the levels of carbon dioxide. After such treatment, Clean-Flo Lake Cleanser can effectively reduce the amount of available phosphates in the water. Some waters may be sufficiently aerated by natural means, but in either case must meet the water quality criteria set forth below.

1. Water Quality Necessary Prior to Addition of Clean-Flo Lake Cleanser.

Carbon Dioxide	< 15 mg/l
Ammonia (nitrogen)	< 0.3 mg/l
Dissolved oxygen	> 5 mg/l
pH	> 6.5 mg/l

All readings should be made one foot above lake bottom at a point equal to the average depth of the lake. Hach testing equipment, or its equivalent, is adequate.

2. Method of Determining Correct Amount of Clean-Flo Lake Cleanser to be Added to Lake.

$$V = 8.3\,P + 5.1\,\overline{R.I.}, \qquad (1)$$

Where:

V = volume of Lake Cleanser to be added, in mg/l of lake water,

P = total phosphorus at one foot below surface, mg/l,

$$\overline{R.I.} = \text{Mean Recovery Index} = \frac{\sum (\text{Average Recovery} \times \text{Percentage Occurance})}{\text{Total No. of Species Found} \times 100} \qquad (2)$$

where,

$$\text{Average Recovery} = \frac{\sum \text{Density Ratings}}{\text{Total Number of Test Sites}} \qquad (3)$$

and,

Density Rating is the number of times an aquatic plant is recovered out of four rake casts at a given test site. If the rake is full of the plant in each of the four casts, a density rating of 5 is assigned rather than 4. If the plants are brown and dying, a value of (-1) is added to the total number of casts in which it is recovered. Dead plants are not counted.

and,

Percentage Occurance is the ratio of the total number of sites at which the plant is found, divided by the total number of test sites on the body of water.

3. Number of Times a Year Lake Cleanser Should be Added.

Clean-Flo Lake Cleanser should be added a minimum of once each year for the first three years, and a maximum of

$$N = \frac{1}{R_t}, \qquad (4)$$

where,

N = Number of times to add Lake Cleanser each year, and

R_t = Residence time of water in years. Additions should be approximately evenly spaced, except that the Lake Cleanser should be added approximately one to three weeks after each heavy rain has greatly increased the flow-through of a lake or pond.

Lake Restoration, Industrial Waste Water Aeration, Swimming Pool Cleansers.

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