

# Hydra Kleen™

**Algaecide/Bactericide†**

For use in Lakes, Ponds, Reservoirs, Canals, Lagoons, Swimming Pools, Spas, Hot Tubs, & Other Water Systems  
(†Non Public Health)

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**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION**

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See inside booklet for Precautionary Statements, First Aid & Directions for Use.

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Active Ingredient:

Copper Sulfate Pentahydrate\* ..... 10.9%  
CAS No. 7758-99-8

Other Ingredients: ..... 89.1%

Total: ..... 100.0%

*\*Metallic Copper Equivalent: 2.7%*



  
**meras**

Meras Engineering, Inc.  
2401 E. Orangeburg Ave #675  
Modesto, CA 95355

EPA Reg. No. 27588-2-81811  
EPA Est. No. 27588-CA-01

# PRECAUTIONARY STATEMENTS

## HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing.

### FIRST AID

#### IF SWALLOWED:

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do NOT induce vomiting unless told to do so by a poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

#### IF IN EYES:

- 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.
- Call a poison control center or doctor for treatment advice.

#### IF ON SKIN OR CLOTHING:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

### HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact CHEMTREC at 1-800-424-9300, 24 hours a day seven days a week for emergency medical treatment information.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Mixers, loaders and applicators must wear the following: Long-sleeved shirt, long pants, and shoes and socks.

Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

### USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove clothing/PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

*continued*

## ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates. Waters treated with this product may be hazardous to aquatic organisms. Treatment of aquatic weeds and algae can result in oxygen loss from decomposition of dead algae and weeds. This oxygen loss can cause fish and invertebrate suffocation. To minimize this hazard, do not treat more than ½ of the water body to avoid depletion of oxygen due to decaying vegetation. Wait at least 14 days between treatments. Begin treatment along the shore and proceed outwards in bands to allow fish to move into untreated areas. Consult with the State or local agency with primary responsibility for regulating pesticides before applying to public waters, to determine if a permit is required.

Certain water conditions including low pH ( $\leq 6.5$ ), low dissolved organic carbon (DOC) levels (3.0 mg/L or lower), and “soft” waters (i.e., alkalinity less than 50 mg/L), increases the potential acute toxicity to non-target aquatic organisms.

### NOTE:

Trout, koi and other species of fish may be killed at the application rates stated on this label. However, fish toxicity generally decreases when the hardness of the water increases. Consult your state fish and game agency before applying this product to public waters.

## PRODUCT INFORMATION

Hydra Kleen when properly applied, will control a broad spectrum of algae and suppress non-public health bacteria and bacteria that cause taste and odor problems in impounded waters, lakes, ponds, lagoons, wastewater lagoons, reservoirs, livestock watering systems, potable water supplies<sup>+</sup>, sedimentation basins, swimming pools, spas, hot tubs and other water systems as described in this label. Hydra Kleen may be also be used for suppression of non-public health bacteria and toxic gases resulting from bacterial action in sewage lagoons, feedlot run off pits, animal confinement facilities and other ponds containing organic matter or algae.

<sup>+</sup>Potable Water Supplies = Water destined to be used as drinking water.

Especially effective results have been obtained against spirogyra, cladophora, vaucheria, chara, microcystis, ulothrix and oscillatoria.

If treated water is to be used as a source of water for human consumption, the metallic copper residue must not exceed 1 part per million (ppm). This water must receive additional and separate potable water treatment.

## 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.

The maximum application rate per application is 1 ppm of metallic copper for all use sites.

The minimum retreatment interval is 14 days.

No more than ½ of any body of water that may contain fish may be treated at one time.

## SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity), and the method of application (e.g., ground, aerial, air blast, chemigation) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

**DROPLET SIZE:** Apply only as a medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

**WIND SPEED:** Do not apply at wind speeds greater than 15 mph. Only apply this product if the wind direction favors on-target deposition (approximately 3 to 10 mph), and there are no sensitive areas within 250 feet downwind.

**TEMPERATURE INVERSIONS:** If applying at wind speeds less than 3 mph, the applicator must determine if a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

**OTHER STATE AND LOCAL REQUIREMENTS:** Applicators must follow all state and local pesticide drift requirements regarding application of copper compounds. Where states have more stringent regulations, they must be observed.

**EQUIPMENT:** All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

### ***For aerial applications:***

- The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.
- Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the water surface unless a greater height is required for aircraft safety.
- When applications are made with a cross-wind, the swath must be displaced downwind. The applicator must compensate for this displacement at the up and downwind edge of the application area by adjusting the path of the aircraft upwind.

### ***For ground boom application:***

- Do not apply with a nozzle height greater than 4 feet above the crop canopy.

## USE IN CONTROL OF ALGAE, NONPUBLIC HEALTH BACTERIA, AND BACTERIA THAT CAUSE ODOR PROBLEMS

For effective algae control, proper chemical concentration should be maintained for a minimum of three hours contact time. The application rates in the chart are based on a static or minimal flow situation. Where significant dilution or loss of water from unregulated inflows or outflows (raceways) occur within a three hour period, Hydra Kleen may have to be metered in.

- Identify the algae growth present as one of the following types: Planktonic (suspended), Filamentous (mat-forming), or Chara/Nitella.
- Determine the surface acreage (1 acre = 43,560 sq. ft.) and average depth of infected area.
- Refer to the “**DOSAGE TABLE**” to determine gallons of Hydra Kleen to apply per surface acre.

## HOW TO APPLY HYDRA KLEEN

Hydra Kleen may be diluted with 5 parts water to 1 part Hydra Kleen and coarse sprayed from shore. Application may also be done by pouring a measured amount of Hydra Kleen directly from the container into the lake, pond, reservoir or irrigation canal to be treated at several points in the total water area. Generally, 1 gallon of Hydra Kleen will treat 325,851.6 gallons (1 acre foot) of water to 0.1 ppm metallic copper. Apply Hydra Kleen when algae growth first appears and the temperature of the water to be treated exceeds 60°F.

Larger bodies of water can be treated from the back of a moving boat by dragging a feeder hose behind the boat across the body of water.

Treatment of aquatic weeds and algae can result in oxygen loss from decomposition of dead algae and weeds. This oxygen loss can cause fish and invertebrate suffocation. To minimize this hazard, do not treat more than ½ of the water body to avoid depletion of oxygen due to decaying vegetation. Wait at least 14 days between treatments. Begin treatment along the shore and proceed outwards in bands to allow fish to move into untreated areas.

## HOW TO ESTIMATE GALLONS OF WATER/ACRE FEET

Measure Length (L), Width (W) and average Depth (D) in feet.

Rectangular or Square shaped bodies of water:  
 **$L \times W \times D \times 7.5 = \text{approximate gallons.}$**

Circular or Elliptical bodies of water:  
 **$L \times W \times D \times 5.9 = \text{approximate gallons.}$**   
Total gallons divided by 325,851.6 (gallons per acre feet) = Acre Feet.

<b>DOSAGE TABLE</b>		
GAL. Hydra Kleen Per Acre-foot Water	PPM Copper Sulfate Pentahydrate	PPM Metallic Copper
0.5 gal.	0.20	0.05
1.0 gal.	0.40	0.10
2.0 gal.	0.81	0.20

During periods of heavy algae growth, repeat application may be needed. If algae is still present after two weeks repeat the application as directed.

**SPECIFIC INSTRUCTIONS TO CONTROL ALGAE, NONPUBLIC HEALTH BACTERIA, and BACTERIA THAT CAUSE ODOR PROBLEMS IN Irrigation Reservoirs, Impounded Waters, Lakes, Ponds, Lagoons, Reservoirs, Livestock Watering Systems, Potable Water Supplies<sup>+</sup>, Sedimentation Basins, and Ornamental Water Features or Fountains: For fish-bearing lakes, ponds, drinking water reservoirs, irrigation canals and other applications, apply at the rate of 1 gallon Hydra Kleen per acre foot of water for preventive treatment of algae and non-public health bacteria. This will yield a concentration of 0.1 ppm metallic copper.**

\*Potable Water Supplies = Water destined to be used as drinking water.

If algae are present, treat at the rate of 2 gallons of Hydra Kleen per acre foot of water. This will yield a concentration of 0.2 ppm metallic copper.

For applications without fish, apply at the rate of up to 2.5 gallons of Hydra Kleen per acre foot of water. This will yield a rate of 0.25 ppm metallic copper.

Do not exceed 10 gallons of Hydra Kleen per acre foot of water (1.0 ppm metallic copper) under any circumstances for water destined for use as drinking water. Hydra Kleen may be poured into the water manually after calculating the volume of water to be treated and measuring the quantity of Hydra Kleen necessary to attain the desired concentration or by using an automated dispenser calibrated to release the required amount. For best results, disperse Hydra Kleen evenly throughout the body of water on a sunny day when algae are near the surface. Do not apply Hydra Kleen to water with less than 50 ppm alkalinity. Do not treat more than half of the water body at a time.

**TO CONTROL ALGAE or NONPUBLIC HEALTH BACTERIA and BACTERIA THAT CAUSE ODOR PROBLEMS IN Open Channel Irrigation Conveyance Systems, Ditches, Canals and Similar Irrigation Conveyances:** To prevent algae growth, apply 1 gallon of Hydra Kleen per acre foot of water to yield a rate of 0.1 ppm metallic copper in the water.

If algae are present, apply 2 gallons of Hydra Kleen per acre foot of water to yield 0.2 ppm metallic copper. If this application is not effective make next application at a higher rate. Do not exceed 10 gallons of Hydra Kleen per acre foot of water (1.0 ppm metallic copper). Minimum retreatment interval is 2 weeks. See Example Calculation Table below for continuous flow rates.

- Hydra Kleen should be applied upstream from or directly on the algae or hydrilla when normal delivery of water (clogging of lateral head gates, suction screens, weed screens, and siphon tubes) begins to be interrupted. Delaying treatment could perpetuate a problem causing massing and compacting of plants. Heavy infestations and low flow may cause poor chemical distribution resulting in unsatisfactory control. Under these conditions, increasing water flow rate during application, may be necessary.

- Prior to treatment it is important to accurately determine water flow rates in the absence of weirs, orifices, or similar devices which give accurate water flow measurements, volume of flow may be estimated by the following formula. **Average Width (W) x Average Depth (D) x Velocity (V)† (feet/second) x 0.9 = Cubic Feet per Second (C.F.S.)**

Example: 26 x 5 x 1.7 x 0.9 = 198.0 cubic feet per second.

†Velocity (V) is the time it takes a floating object to travel a given distance. Dividing the distance traveled (feet) by the time (second) will yield velocity (feet/second). This measurement should be repeated at least three times at the intended application site and then averaged.

- After accurately determining the water flow rate in C.F.S. or gallons/minute, find the corresponding Hydra Kleen rate in the chart below:

### Example Calculation Table

WATER FLOW RATE		HYDRA KLEEN DRIP RATE		
C.F.S.	Gal./Min.	Qts./Hr.	mL/Min.	Fl. Oz./Min.
1	450	1	16	0.5
2	900	2	32	1.1
3	1350	3	58	1.6
4	1800	4	64	2.1

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- Calculate the amount of Hydra Kleen needed to maintain the drip rate for a period of 3 hours by multiplying: Qts./Hr. x 3: ml/Min. x 180: or Fl. Oz./Min. x 180. Dosage will maintain 0.3 ppm metallic copper in the treated water for the 3 hour period. Introduction of the chemical should be made in the channel at weirs or other turbulence creating structure to promote the dispersion of Hydra Kleen.
- Pour the required amount of Hydra Kleen into a drum or tank equipped with a brass needle valve and constructed to maintain a constant drip rate. Readjust accordingly if flow rate changes during the 3 hour period.
- Distance control obtained down the waterway will vary depending upon density of vegetation growth. Periodic maintenance treatments may be required to maintain seasonal control. Wait at least 14 days between applications.

**TO CONTROL ALGAE OR NONPUBLIC HEALTH BACTERIA AND BACTERIA THAT CAUSE ODOR PROBLEMS IN Sprinkler, Drip, and Other Types of Irrigation Equipment or Chemigation Systems:**

Apply as soon as or prior to visible algae bloom or bacteria growth. Agitation is not required. Do not mix with basic substances. Pour the required amount of Hydra Kleen to be metered in into a drum or tank equipped with a brass needle valve and constructed to maintain a constant drip rate. Readjust accordingly if flow rate changes during the application period. For best results, Hydra Kleen should be applied continuously for the duration of the water application.

Apply 1 to 3 quarts per hour per cubic foot per second depending upon amount of algae presence. See Example Calculation Table above. This will yield 0.3 - 0.9 ppm metallic copper.

**TO CONTROL ALGAE AND NONPUBLIC HEALTH BACTERIA AND BACTERIA THAT CAUSE ODOR PROBLEMS IN Swimming Pools, Spas and Hot Tubs:** Apply appropriate rate of Hydra Kleen at various locations around your pool, spa or hot tub for thorough disbursement.

**You will first need to estimate the gallon capacity of your pool:** Measure (L) Length, (W) Width, and (D) Depth in feet. Square or Rectangular Pools:  $L \times W \times D \times 7.5 = \text{Gallons}$  Round or Oval Pools:  $L \times W \times D \times 5.9 = \text{Gallons}$

**For pools** with visible algae, apply at the rate of 1 to 4 Fl. Oz. of Hydra Kleen per 1,000 gallons of water, depending upon amount of algae presence. Use lower rate for less severe algae presence and higher rate for extremely severe presence. This will yield a rate of 0.25 to 1.0 ppm of metallic copper. Do not apply more than 4 Fl. Oz. (1.0 ppm) per 1,000 gallons of water per application. Every 14 days, test the copper level using a standard commercial swimming pool copper test kit.

For maintenance, apply a dosage of 15 mL of Hydra Kleen per 1,000 gallons of water every two weeks which will yield a rate of 0.125 ppm of metallic copper.



**For spas and hot tubs** with visible algae, apply at the rate of 3 mL per 100 gallons of water (0.25 ppm metallic copper).

For maintenance, apply 1.5 mL per 100 gallons of water (0.125 ppm metallic copper) every two weeks.

**RESTRICTION:**

Treated pool effluent should not be discharged where it will drain into lakes, streams, ponds or public water.

**BACTERIA ODOR CONTROL In Sewage Lagoons and Pits (except California)**

Application rates may vary depending on amounts of organic matter (sewage) in lagoons and pits. Application should be done by pouring Hydra Kleen directly from the container into the pit, lagoon or transfer line. Several application points speed up dispersal. Use 1 gallon of Hydra Kleen in 325,851.6 gallons (1 acre foot) to yield a rate of 0.1 ppm of metallic copper. Non-public health bacteria and odors should be noticeably reduced in 1 to 2

Repeat application when odor reoccurs. Minimum retreatment interval is 14 days. See subsections below for instructions for specific types of sewage lagoons or pits.

**For Feedlot Run-Off Lagoons (except California):** Add a portion of the required dosage of Hydra Kleen around the lagoon to speed dispersal of the product. A minimum of two applications per year (spring and fall) is recommended. Additional applications may be required as needed when the lagoon is pumped.

**For Animal Confinement Pits (except California):** If pits are located under the confinement buildings, add Hydra Kleen directly to these pits. If the pits are outside, add Hydra Kleen to the transfer line to the pit.

**For Other Organic Sludges (except California):** Hydra Kleen must be thoroughly mixed with sludge.

## **STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Keep container closed when not in use. Open dumping is prohibited.

**PESTICIDE DISPOSAL:** Pesticide spray mixture or rinsate that cannot be used according to label directions or chemically reprocessed should be disposed of according to procedures approved by Federal, State or Local Disposal Authorities.

### **(FOR NONREFILLABLE CONTAINERS, EQUAL TO OR LESS THAN 5 GALLONS)**

**CONTAINER DISPOSAL:** Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container  $\frac{1}{4}$  full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after flow begins to drip. Repeat this procedure two more times. Offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### **(FOR NONREFILLABLE CONTAINERS GREATER THAN 5 GALLONS)**

**CONTAINER DISPOSAL:** Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty remaining

contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### **(FOR REFILLABLE CONTAINERS)**

**CONTAINER DISPOSAL:** Refillable containers: Refill this container with pesticide only. Do not reuse this container for any other purpose. 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 10% 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 2 more times. Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**NOTICE** – To the extent consistent with applicable law, neither the manufacturer nor the seller makes any warranty expressed or implied, concerning the uses of this product other than indicated on the label. Buyer assumes all risk of use of this material when such use is contrary to label instructions. Read and follow the label directions carefully.

SEE INSIDE BOOKLET FOR COMPLETE PRECAUTIONARY STATEMENTS, FIRST AID & DIRECTIONS FOR USE.

# PRECAUTIONARY STATEMENTS

## HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing.

### FIRST AID

#### IF SWALLOWED:

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do NOT induce vomiting unless told to do so by a poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

#### IF IN EYES:

- 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.
- Call a poison control center or doctor for treatment advice.

#### IF ON SKIN OR CLOTHING:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

Mixers, loaders and applicators must wear the following: Long-sleeved shirt, long pants, and shoes and socks.

Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

## HOT LINE NUMBER

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## USER SAFETY RECOMMENDATIONS

### Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove clothing/PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

## ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates. Waters treated with this product may be hazardous to aquatic organisms. Treatment of aquatic weeds and algae can result in oxygen loss from decomposition of dead algae and weeds. This oxygen loss can cause fish and invertebrate suffocation. To minimize this hazard, do not treat more than 1/2 of the water body to avoid depletion of oxygen due to decaying vegetation. Wait at least 14 days between treatments. Begin treatment along the shore and proceed outwards in bands to allow fish to move in to untreated areas. Consult with the State or local agency with primary responsibility for regulating pesticides before applying to public waters, to determine if a permit is required.

Certain water conditions including low pH ( $\leq 6.5$ ), low dissolved organic carbon (DOC) levels (3.0 mg/L or lower), and "soft" waters (i.e., alkalinity less than 50 mg/L), increases the potential acute toxicity to non-target aquatic organisms.

**NOTE:** Trout, koi and other species of fish may be killed at the application rates stated on this label. However, fish toxicity generally decreases when the hardness of the water increases. Consult your state fish and game agency before applying this product to public waters.

PULL HERE TO OPEN, PRESS TO RESEAL

Net Contents:  5 Gallons 18.93 Liters  30 Gallons 113.56 Liters  55 Gallons 208.20 Liters  275 Gallons 1040.99 Liters