Algaecide/Bactericide* for Lakes, Ponds & Reservoirs

Brandt T.A.C.

* Non-public health

Active Ingredient
Copper Sulfate Pentahydrate** ................................................. 20.0%
Inert Ingredients ........................................................................ 80.0%
Total ......................................................................................... 100.0%

**Metallic copper equivalent = 5.0%.
CAS# 7758-99-8
EPA Reg. No. 65109-1-48813
EPA Est. No. 48813-IL-1

LIMITED WARRANTY AND LIMITATION OF REMEDIES: To the extent consistent with applicable law, Seller warrants that the product conforms to the chemical description and is reasonably fit for the purpose stated on the label for the use under normal conditions but makes no other warranties of FITNESS OR MERCHANTABILITY, expressed or implied, or any other warranty if the product is used contrary to the label instructions, or under abnormal conditions or under conditions not foreseeable to the seller. In no case shall the seller be liable for more than the cost of this product to the buyer and will, in no event, be liable for any indirect, special or indirect damages (including lost profits) connected with the use or handling of this product. This product is offered and the buyer or user accepts it subject to the foregoing terms which may not be varied.

Keep Out of Reach of Children
DANGER/PELIGRO
(Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle). If you do not understand this label, find someone to explain it to you in detail.

FIRST AID
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. 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. 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 INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth, if possible. Call a poison control center or doctor for treatment advice. NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

PRECAUTIONARY STATEMENTS
Hazards to Humans and Domestic Animals
Danger: Corrosive. Causes irreversible eye damage. Do not get in eyes or on clothing. Wear goggles or safety glasses. Harmful if swallowed, inhaled, or absorbed through skin. May cause allergic skin reactions. Avoid contact with skin. Wash thoroughly with soap and water after handling.

PERSONAL PROTECTIVE EQUIPMENT (PPE)
Mixers, loaders, applicators and other handlers must wear the following: Long-sleeved shirt, long pants, chemical resistant gloves made of any waterproof material, protective eyewear and shoes plus socks.

Some materials that are chemical-resistant to this product are nitrile and polypropylene. Chloride. For any requirement depending on turbulence and velocity of flow. Do not apply more than 1.0 ppm as metallic copper.

Note: Effectiveness of Brandt T.A.C. decreases as the alkalinity increases and is significantly reduced when the alkalinity exceeds approximately 150 ppm as CaCO3. As alkalinity increases, application rates towards the higher end of stated ranges may be required.

Do not apply Brandt T.A.C. to water less than 40 ppm alkalinity without first doing a preliminary toxicity test on fish in the water. Perform this test in a separate container. Brandt T.A.C. may be very toxic to trout and other species in soft or acidic waters. This preliminary testing is necessary.

IF BRANDT T.A.C. is to be sprayed:
- DO NOT apply during temperature inversions;
- Apply only when wind velocity favors on-target deposition (approximately 3 to 10 mph);
- DO NOT apply if wind velocity exceeds 15 mph;
- Use only medium or coarse spray nozzles in boat mounted boats, ground booms, aerial applications or hand sprayers;
- For boat mounted boats, booms should be mounted so nozzle tips are no more than 2 feet above the water’s surface.

GENERAL ALGAE CONTROL: For algae control, apply in late spring or early summer when algae first appear. The dosages are variable and depend upon algae species, water hardness, water temperature, amount of algae present, as well as whether water is clear, turbid, flowing or static. Preferably, the water should be clear with temperatures above 60 degrees F (15.6 degrees C). Higher dosages are required at lower water temperatures, higher algae concentrations and hard waters. Effective control of most algae species can be obtained with copper levels between 0.2 - 1.0 ppm metallic copper. Application
should be done by pouring or spraying BRANDT T.A.C. DIRECTLY FROM THE CONTAINER INTO THE LAKES AND PONDS. Several application points speed up dispersal. Static water requires less chemical for algae control than does flowing water. Use higher dosages to control chara, nitella, and filamentous algae (pond scum) and lower dosages to control planktonic algae. Also, there is a greater potential for the dosage begin with a lower dose and increase until control is achieved or until the maximum allowable level has been reached. Do not apply more than 1.0 ppm as metallic copper.

Before treating bodies of water, consult proper state authorities such as the Fisheries Commission or Conservation Department to obtain any necessary permits.

CALCULATIONS FOR THE AMOUNT (VOLUME IN CUBIC FEET) OF WATER IMPOUNDED: If the amount of water to be treated is unknown, 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 adding 24 inches to each individual waterbody 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) Alternatively, multiply surface area in acres by average depth in feet to obtain total acre/feet of water. (5) For circular or elliptical shaped bodies of water, volume can be obtained by multiplying 3.14 x the radius of the body of water squared (pi x radius x the average depth [C1] above)

CALCULATE GALLONS OF WATER TO BE TREATED AS FOLLOWS: (1) To find the capacity of a water storage container or impounded waters in gallons, multiply the water volume in cubic feet times 7.5. (2) If acre/feet calculations were used multiply acre/ft by 326,000 to obtain total gallons of water. (3) For flowing water measure in cubic feet per second - 1 C.F.S./HR = 27,000 gallons of water. (4) CALCIULATIONS OF ACTIVE INGREDIENT TO BE ADDED IF RECOMMENDED USAGE RATE IS EXPRESSED IN PARTS per MILLION (PPM): 1 gallon of BRANDT T.A.C. in 60,000 gallons of water yields 1 ppm of dissolved copper (metallic copper). If desired application rate is expressed in ppm: (1) Divide total gallons to be treated by 60,000 to yield total gallons of BRANDT T .A .C. required. (2) Multiply the gallons of BRADNT T.A.C. required by the ppm rate of metallic copper, the foregoing by the desired ppm treatment level to yield actual gallons required. Example: 240,000 gallons to be treated divided by 60,000 = 4 Gallons BRANDT T.A.C. to achieve 1 ppm metallic copper. If a 0.2 ppm level is required then, 4 x 0.2 = 0.8 gallons BRANDT T.A.C. is required to achieve a 0.2 ppm metallic copper concentration.

**SPECIFIC INSTRUCTIONS**

To Control Algae in Impounded waters, Lakes and Ponds: Apply 1 pint of BRANDT T.A.C. in each 7,500-300,000 gallons of water to be treated. One pint (16 ounces) of BRANDT T.A.C. per each 7,500 to 300,000 gallons yields a range of 1 ppm (7,500 gallons) metallic copper down to 0.025 ppm (300,000 gallons) metallic copper. For best results, apply to warm, still water on a sunny day when algae are near the surface. There are several methods by which to apply BRAND T.A.C. to impounded water. It may be applied from either the shoreline or from a boat. In smaller lakes and ponds, shoreline application through an electrically or manually operated hand spray device is preferred. In larger lakes, ponds, and reservoirs, application by boat or direct injection into the influent stream is preferred.

Shoreline Application: In smaller lakes and ponds, BRANDT T.A.C. is most easily applied by using either an electrically or manually operated hand spray device (sprayer). REMOVE THE SPRAY NOZZLE from the sprayer so that, when activated, the spray device dispenses a stream rather than a spray pattern. This will minimize or eliminate the potential for any drift and enable you to project the dispersed stream of BRANDT T.A.C. further away from the shoreline than if the spray nozzle were attached. Always use a sprayer which is constructed of materials listed in the Storage and Handling Equipment listed on this label. Only use this method on calm days or when wind is less than 10 mph. Never use this method of application when wind is in excess of 15 mph or when you must stand down wind of the direction of application or in any position that could expose you to drift. Never exceed more than 1/2% of the body of water at one time. Wait 10 to 14 days between applications.

1. Based on your developed knowledge of the body of water, mark two points on opposing shorelines where, when drawing an imaginary line between them, half the volume of water is on each side of the line. Verify your water volume calculations.

2. Determine the amount of BRANDT T.A.C. required to treat the portion of the body of water sampled at #1 above. Dilution of BRANDT T.A.C. with clean water prior to application may be done so that uniform distribution is more easily accomplished.

3. Beginning at point 1 on the shoreline, simultaneously begin walking towards the other mark while projecting a stream of BRANDT T.A.C. or BRANDT T.A.C. solution to a point approximately 5 feet from the shoreline.

4. When the opposing mark has been reached, reverse course and while walking back to the beginning mark, project a stream of water 1 foot further from the shoreline.

5. Repeat steps 3 & 4, increasing the distance of stream projection from the shoreline by 5 feet each time, until all BRANDT T.A.C. is dispersed.

Boat Application: In larger bodies of water, probably the most satisfactory and simplest method is to apply BRANDT T.A.C. within the body of water from a boat. A small pump mounted in the boat can easily be used for this purpose. When using this method, BRANDT T.A.C. is pumped from either its original container or a nurse tank (containing the amount of BRANDT T.A.C. required for the application) into a hose (or manifolded gangs of hoses), where hose(s) are trailing over the side or stern (back) of the boat and where the hose outlet is just below the surface of the water. While BRANDT T.A.C. may be sprayed over the surface of the water, application through hoses eliminates or minimizes risk of drift. If spraying, re-read about spraying application in the General Information portion of this label. Mount spray boom or nozzles so that nozzle height is no more than 2 feet above water surface. Alternatively, begin treatment along the shoreline and proceed outward until one-third to one-half of the total area has been treated. Follow procedure outlined for shore application for lakes, ponds, and reservoirs contained on this label.

To apply by boat, the customary method is to make successive parallel applications across the body of water where the distance between each parallel line of application is from 20 to 200 feet. Initial application should be made along a line following the shoreline, with subsequent lines of application being parallel to the initial line of application and made progressively further outward. To calculate:

1. Based on your developed knowledge of the body of water, mark two points on opposing shorelines where, when drawing an imaginary line between them, not more than ½ the total volume of water within the lake, pond, or reservoir is on each side of the line.

2. Determine the total amount of BRANDT T.A.C. required for treating the selected portion of the body of water. (Example: 40 gallons).

3. Determine the distance between your parallel lines of application.

4. Based on the surface area of the portion and shape of the body of water to be treated and the intended distance between parallel lines of application to be made, determine the number of parallel lines of application to be made. Plot these lines reasonably to scale on chart paper.

5. Sum the length (in feet) of all parallel lines of application. The result is the total distance you will travel during application. (Example: 20,000 feet)

6. Determine the speed (in mph) at which your boat will be traveling during application and convert this to Feet Per Minute (fpm) by multiplying mph X 88 (Example: 5 mph X 88 = 440 fpm) or refer to the following table:

<table>
<thead>
<tr>
<th>mph</th>
<th>2</th>
<th>3</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>fpm</td>
<td>176</td>
<td>264</td>
<td>352</td>
<td>440</td>
<td>528</td>
<td>616</td>
<td>704</td>
<td>792</td>
</tr>
</tbody>
</table>

7. Divide the total gallons of BRANDT T.A.C. you intend to apply to the selected section of body of water by the total distance determined in #5 above. This result will provide you with your fractional gallons of BRANDT T.A.C. per foot you will apply. (Example: 40 divided by 20,000 = .004 gallons/ft).

8. Multiply the fractional gallons of BRANDT T.A.C. you will apply per foot as calculated in #7 above times your travel speed in FPM. This result is the gallons per minute (gpm) at which you must set your pump. (Example 440 fpm X .004 = .88 gpm).

9. Navigate to your starting point, engage your pump, and begin applying BRAND T.A.C. at your intended speed beginning close to the shoreline and proceeding outward in parallel lines of application.

10. If, at the end of application, all BRAND T.A.C. required for the application has not been dispensed, return to a line of application which, on your application chart, is about ¾ of the way from the shoreline. Then, following your navigation chart, continue applying until all BRAND T.A.C. has been used.

**Injection Instructions:** Calculate the amount of BRAND T.A.C. needed to maintain the copper level at 0.2 ppm for 4 hours by multiplying Pints/HR by 4 OR Fluid Ounces/Minute by 240. This dosage will maintain the copper level at the required ppm for 4 hours. BRAND T.A.C. must be introduced at a point of turbulence to insure proper dispersion. Place the required amount of BRAND T.A.C. into a tank equipped with a needle valve and set the drip rate as required using a stop watch and a measuring device. Alternatively, use a chemigation or dosing device calibrated and adjusted to inject the desired amount of BRAND T.A.C. Readjust as required if flow rates change. Distance of control will vary. Treatment points should be determined in the field and placed at required intervals for control. Periodic maintenance treatments may be necessary.

**BRANDT T.A.C. INJECTION RATE**

**Water Flow Rate**

<table>
<thead>
<tr>
<th>ALGAE GROWTH</th>
<th>Moderate</th>
<th>Light</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ppm as Copper</td>
<td>1.0</td>
<td>0.2</td>
</tr>
<tr>
<td>2 ppm as Copper</td>
<td>1.4</td>
<td>0.4</td>
</tr>
<tr>
<td>3 ppm as Copper</td>
<td>2.2</td>
<td>0.8</td>
</tr>
<tr>
<td>4 ppm as Copper</td>
<td>3.8</td>
<td>0.9</td>
</tr>
<tr>
<td>5 ppm as Copper</td>
<td>4.8</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Store in a safe place away from pets and KEEP OUT OF THE REACH OF CHILDREN. Store away from excessive heat. BRAND T.A.C. will freeze. Always keep container closed. Store BRAND T.A.C. in its original container only. Bulk BRAND T.A.C. shall be stored in stainless steel, fiberglass, polypropylene, PVCs or plastic equipment. Keep away from galvanized pipe, brass, copper, and any nylon or aluminum storage handling equipment.

**PESTICIDE DISPOSAL:** Excess BRAND T.A.C. should be disposed of through use. Do not contaminate lakes, rivers or streams as this may cause fish kill. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, mixture or residue 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 in the disposal of a spill, neutralization of wastes already stored, or recycling or reconditioning if available, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by local authorities by burning. If burned, stay out of smoke.