

# BRANDT® T.A.C.

## Algaecide/Bactericide\*

\* Non-public health

For lakes, ponds, reservoirs, canals, and impounded water

### Active Ingredients:

|                               |      |
|-------------------------------|------|
| Copper sulfate pentahydrate** | 20%  |
| Other Ingredients             | 80%  |
| Total                         | 100% |

\*\*Metallic copper equivalent. 5.1%

Contains 0.51lbs metallic copper per gallon

EPA Reg. No. 65109-1-48813

Non-Flammable.

CAS# 7758-99-8

EPA Est. No. 48498-CA-1

Do Not Freeze.

## 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 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 to 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.

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

For emergency information concerning this product, you may also contact the National Pesticides Information Center (NPIC) at 1-800-858-7378 Monday - Friday, 7:30 am to 3:30 pm Pacific Time (NPIC Web site: [www.npic.orst.edu](http://www.npic.orst.edu)).

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**DANGER: CORROSIVE.** Causes irreversible eye damage. Harmful if swallowed. Harmful if absorbed through skin or on clothing. Do not get in eyes, on skin or on clothing.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Mixers, loaders, applicators and other handlers must wear the following: Long-sleeved shirt and long pants, shoes plus socks, chemical resistant gloves made of: barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, natural rubber ≥14 mils, polyethylene, polyvinyl chloride ≥14 mils, or viton ≥14 mils and Goggles or face shield.

Some materials that are chemical-resistant to this product are nitrile and polyvinyl chloride. If you want more options, follow the instructions for Category A on an EPA chemical-resistance category selection chart.

Follow 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.

For applications in waters destined for use as drinking water, those waters must receive additional and separate potable water treatment. Do not apply more than 1.0 ppm as metallic copper in these waters.

**Engineering Controls:** Pilots must use an enclosed cab that meets the definition listed in the WPS for agricultural pesticides [40CFR 170.305].

### USER SAFETY RECOMMENDATIONS

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

COPPER

GROUP

NON-CLASSIFIED

HERBICIDE

## ENVIRONMENTAL HAZARDS

**Fish Advisory:** This pesticide is toxic to fish and aquatic organisms. Unlike most organic pesticides, copper is an element and will not break down in the environment and will therefore accumulate in sediment with repeated applications. Copper is a micronutrient, but its pesticidal application rate exceeds the amount of copper needed as a nutrient. This product has a potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. For terrestrial uses, do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash-waters or rinsate.

Certain water conditions including low pH ( $\approx$ 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), increase potential acute toxicity to non-target aquatic organism.

Do not use in ornamental fish ponds or other artificial aquaculture systems containing Koi or trout.

To protect listed species in California, contact your County Agricultural Commissioner or refer to the Department of Pesticide Regulation's PRESCRIBE Internet Database: <http://www.cdpr.ca.gov/docs/endspec/prescint.htm>

### Application and Handling Equipment

Application, handling or storage equipment MUST consist of either fiberglass, PVCs, polypropylenes, most plastics, or stainless steel. Never use mild steel, nylon, brass, aluminum or copper around, or to store or handle full strength BRANDT T.A.C. Always rinse equipment free and clean of BRANDT T.A.C. each night with plenty of fresh clean water.

## 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. Do not enter or allow others to enter until sprays have dried. Only protected handlers may be in the area during application. For any requirement specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g. ground, aerial, airblast, and 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 10 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 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:

- Do not release spray at a height greater than 10 feet above the water unless a greater application height is necessary for pilot safety.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speed exceeds 15mph at the application site. If the windspeed is greater than 10mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the diameter for helicopters.
- Applicators must use ½ swath displacement upwind at the downwind edge of the application area.
- Do not apply during temperature inversions.

### For ground boom application:

- Apply with the spray release height recommended by the manufacturer, but no more than 4 feet above the water surface.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

### SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

## IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable conditions.

### Controlling Droplet Size - Ground Boom

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

### Controlling Droplet Size - Aircraft

- Adjust Nozzles - Follow nozzle manufacturers recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

### BOOM HEIGHT - Ground Boom

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

### RELEASE HEIGHT - Aircraft

Higher release heights increase the potential for spray drift. When applying aerially to crops, do not release spray at a height greater than 10 ft. above the crop canopy, unless a greater application height is necessary for pilot safety.

### SHIELDED SPRAYERS

Shielded the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

### TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

### TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

### WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

### RESTRICTIONS

Pilots must use an enclosed cab that meets the definition listed in the WPS for agricultural pesticides [40CFR 170.305].

### RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, **BRANDT T.A.C.** contains a Non-classified herbicide, copper sulfate pentahydrate. Any algae/bacterial\* population may contain individuals naturally resistant to **BRANDT T.A.C.** and other non-classified herbicides. A gradual or total loss of pest control may occur over time if these algae/bacteria\* are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay algae/bacteria\* resistance, take one or more of the following steps:

- Rotate the use of **BRANDT T.A.C.** or other non-classified herbicides within a growing season sequence with different groups that control the same pathogens.
- Use tank mixtures with fungicides from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.
- Adopt an integrated disease management program for algae/bacteria\* use that includes scouting, uses historical information related to pesticide use, and crop rotation, and which considers host plant resistance, impact of environmental conditions on disease developments, disease thresholds, as well as cultural, biological and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time algae/bacteria\* applications. Note that using predictive models alone is not sufficient to manage resistance.
- Monitor treated algae/bacteria\* populations for resistance development.
- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM recommendations for specific aquatic areas and pathogens.
- For further information or to report suspected resistance contact your pesticide distributor or university extension specialist to report resistance.

Water bodies or management units should be scouted prior to application to identify the weed species present and their growth stage to determine if the intended application will be effective. Water bodies or management units should be scouted after application to verify that the treatment was effective.

Suspected herbicide-resistant weeds may be identified by these indicators:

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species.

Report any incidence of non-performance of this product against a particular weed species to your **BRANDT T.A.C.** retailer or representative (**BRANDT Consolidated, Inc.** Contact Number: 800-300-6559). If resistance is suspected, treat weed escapes with an herbicide having a different mechanism of action and/or use non-chemical means to remove escapes, as practical, with the goal of preventing further reproduction.

**Implement the Early Detection, Rapid Response practice and Maintenance Control by using the following practices where possible:**

- Identify weeds present in a management unit through scouting or history of the water body and understand the biology of target species.
- Applications should target weeds when populations are small and there is low biomass, early in the season to maximize efficacy.
- Applications should be made so that the herbicide contacts the weed. Use the appropriate application method for the use site/weed/chemical combination.
- Weed escapes should not be allowed to go to seed or produce asexual vegetative propagules.
- Use a diversified approach toward weed management. Whenever possible, incorporate multiple weed-control practices such as mechanical control, biological management practices, and rotation of MOAs.
- Time applications to have the highest probability for control and minimize need for follow-up control measures. Apply during conditions that minimize herbicide degradation (light/temperature/microbes) and/or dissipation (water exchange).

Contact your local sales representative, local water management agency, or extension agent to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective mechanisms of actions for each target weed.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

**PRODUCT INFORMATION: BRANDT T.A.C.** is used for the suppression of bacterial odors and toxic gases in sewage lagoons, feedlot run-off pits, animal confinement facilities and other ponds containing organic matter or algae/bacteria. **BRANDT T.A.C.** may also be used to control algae and bacteria in irrigation reservoirs, ponds, and potable water supplies. Do not apply more than maximum annual application rate of 21.9 lbs metallic copper (42.9 gal **BRANDT T.A.C.**) per acre-foot per year (8 applications per year at up to 1ppm (0.51 lbs) metallic copper per application). In still waters, **BRANDT T.A.C.** has a vertical dispersion rate of 20 feet per hour and a horizontal dispersion rate of 25 feet per hour. In flowing waters, dispersion is faster depending on turbulence and velocity of flow.

Do not apply more than 0.51 lbs metallic copper (1 gal **BRANDT T.A.C.**) per application. Do not make applications less than 14 days apart.

**AQUATIC USES (EXCLUDING SWIMMING POOLS, SPAS, HOT TUBS, FOUNTAINS AND AQUATIC AGRICULTURE):** 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 biomass. This oxygen loss can cause fish and invertebrate suffocation. To minimize this hazard, do not treat more than 1/2 of the water body (excluding water infrastructure and constructed conveyances such as drainage canals, ditches and pipelines or intakes and aqueducts for drinking water or irrigation use) to avoid depletion of oxygen due to decaying vegetation.

Wait at least 14 days between treatments. Begin treatment along the shore and proceed outward 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. Application of algicides to high density bloom of cyanobacteria can result in the release of intracellular contents into the water. Some of these intracellular compounds are known mammalian hepato- and nervous system toxins. Therefore, to minimize the risk of toxin leakage, manage cyanobacteria effectively in order to avoid applying this product when blooms of toxin-producing cyanobacteria are present at high density. In situations where rapidly reproducing toxic algal species pose a public health threat to drinking or recreational water resources, applicators must receive authorization from applicable state, local or tribal water resources authorities to apply copper at intervals shorter than 14 days should the circumstance demand.

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. The application rates on this label are appropriate for water with pH values  $> 6.5$ , DOC levels  $> 3.0$  mg/L, and alkalinity greater than 50 mg/L. Avoid treating waters with pH values  $< 6.5$ , DOC levels  $< 3.0$ , and alkalinity less than 50 ppm (e.g., soft or acid waters), as trout and other sensitive species of fish may be killed under such conditions if present.

Consult your state department of natural resources or fish and game agency before applying this product to public waters. Permits may be required before treating such waters.

**PRE-APPLICATION DOSE DETERMINATION:** For algae and aquatic plant treatments, applicators should conduct initial dose determination tests simulating a full-scale treatment program to determine the minimum efficacious concentrations for eliminating the target species, unless an effective dose is already known for the given target pest population.

Maximum annual application rate of 46.6 lbs metallic copper per acre-foot per year (17 applications per year at up to 1 ppm). This rate/frequency is calculated based on the maximum number of possible applications allowed based on a 14-day minimum (at a rate of 2.74 lbs metallic copper per acre-foot = 1 ppm) retreatment interval for 8 months (244 days). Do not apply more than 46.6 lbs of metallic copper to a water management unit, regardless of the pest(s) targeted by applications. In situations where rapidly reproducing toxic algal species pose a public health threat to drinking or recreational water resources, applicators must receive authorization from applicable state, local or tribal water resources authorities to apply copper in excess of 46.6 lbs of metallic copper per acre-foot per year for a single water management unit.

**NOTE:** Effectiveness of BRANDT T.A.C. decreases as the alkalinity increases and is significantly reduced when the alkalinity exceeds approximately 150 ppm as CaCO<sub>3</sub>. As alkalinity increases, application rates towards the higher end of stated use ranges may be required.

**For potable water systems:** if the impounded water is a source of potable water or for potable water systems, do not exceed one gallon of product in 60,000 gallons of water under any circumstances (1 ppm metallic copper). Potable water sources treated with copper products may be used as drinking water only after proper additional potable water treatments. (Review Algae Control Section of this label before proceeding).

**ALGAE CONTROL: Do not apply more than 1.0 ppm as metallic copper.** 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. 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. If there is uncertainty about the dosage begin with a lower dose and increase until control is achieved or until the maximum allowable level has been reached. 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 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) 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 (radius X radius) X the average depth [(2) above].

**CALCULATION OF WATER FLOW IN DITCHES, STREAMS, AND IRRIGATION SYSTEMS:** In ditches, streams, and canal type irrigation systems the amount of water flow in cubic feet per second is found by means of a weir or other measuring device. Multiply the water volume in cu. ft. times 7.5 to obtain gallons. If no weir or other measuring device is available, water flow and volume can be estimated as: Average width X Depth X Velocity in feet/sec = Cubic Feet Per Second (CFS). Velocity can be determined by the time it takes for a floating object to move a given distance. This measurement should be made three to four times and the results should be averaged. Note: 1 C.F.S./Hr. = 27,000 Gals. **CALCULATE GALLONS OF WATER TO BE TREATED AS FOLLOWS:** (1) To find the capacity of a water storage containment or impounded waters in gallons, multiply the water volume in cubic feet times 7.5. or (2) if acre/ft. 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 per hour.

**CALCULATIONS OF ACTIVE INGREDIENT TO BE ADDED IF LISTED 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 to yield 1 ppm metallic copper. (2) Multiply 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, Ponds, and Reservoirs:** Apply 1 pint of BRANDT T.A.C. in each 7,500-300,000 gallons of water to be treated. One pint (16 fluid 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 BRANDT T.A.C. to impounded water. It may be applied from either the shoreline or from a boat. In smaller lakes, ponds, and reservoirs (bodies of water) shoreline application through an electrically or manually operated hand spray device is preferred. In larger lakes, ponds and reservoirs, either application from a boat or direct injection into the influent stream is preferred

**Shoreline Application:** In smaller lakes, ponds, and reservoirs, 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 straight stream rather than a spray pattern. This will minimize or eliminate the potential for any drift and enable you to project the dispensed stream of BRANDT T.A.C. further away from the shore line 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 10 mph or when you must stand down wind of the direction of application or in any position that could expose you to drift. Never treat more than 1/2 of the body of water at one time. Wait 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 selected in #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 one mark 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 approximately 10 feet 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 dispensed.

**Boat Application-Larger lakes, ponds, and reservoirs:** For larger lakes, ponds, and reservoirs, boat application is the preferred method of application. 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 gang 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 Product 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, 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 away from the shoreline.

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 1/2 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:

| MPH | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| fpm | 176 | 264 | 352 | 440 | 528 | 616 | 704 | 792 | 880 |

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 the fractional gallons of BRANDT T.A.C. per foot you will apply. (Example: 40 divided by 20,000 = .002 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 .002 = 0.88 gpm).
9. Navigate to your starting point, engage your pump, and begin applying BRANDT 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 BRANDT T.A.C. required for the application has not been dispensed, return to a line of application which, on your application chart, is about 1/4 of the way out from the shoreline. Then, following your navigation chart, continue applying until all BRANDT T.A.C. has been used.

**Sprinkler, Drip, or Other Types of Irrigation Equipment:** BRANDT T.A.C. must be applied continuously for the duration of the water application. Mixing instructions for dilutions of BRANDT T.A.C. are 1 pint for each 7,500 to 300,000 gallons of water. Do not mix with basic substances. No agitation is required.

**Drip Irrigation & Injection Instructions:** Calculate the amount of BRANDT T.A.C. needed to maintain the drip rate for a period of 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. BRANDT T.A.C. must be introduced at a point of turbulence to ensure proper dispersion. Place the required amount of BRANDT 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 amounts of BRANDT 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 required.

#### BRANDT T.A.C. INJECTION RATE

| WATER FLOW RATE |         | ALGAE GROWTH                |             |                            |             |
|-----------------|---------|-----------------------------|-------------|----------------------------|-------------|
|                 |         | Moderate<br>1 ppm as Copper |             | Light<br>0.2 ppm as Copper |             |
| CFS             | Gal/Min | Pints/Hr                    | Fl. Oz./Min | Pints/Hr                   | Fl. Oz./Min |
| 1               | 450     | 3.6                         | 1.0         | 0.7                        | 0.2         |
| 2               | 900     | 7.2                         | 1.9         | 1.4                        | 0.4         |
| 3               | 1350    | 10.8                        | 2.9         | 2.2                        | 0.6         |
| 4               | 1800    | 14.4                        | 3.8         | 2.9                        | 0.8         |
| 5               | 2250    | 18.0                        | 4.8         | 3.6                        | 1.0         |



## STORAGE AND DISPOSAL

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. **BRANDT T.A.C.** will freeze. Always store **BRANDT T.A.C.** above 32 degrees F. Freezing may cause product separation. Seller makes no warranty for the performance of product which has been frozen. Always keep container closed. Store **BRANDT T.A.C.** in its original container only. Bulk **BRANDT T.A.C.** shall be stored and handled 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:** 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 event of a spill, neutralize with limestone or baking soda before disposal. May deteriorate concrete. Do not re-use empty container.**CONTAINER HANDLING:** Nonrefillable container. Do not reuse or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 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 the flow begins to drip. Repeat this procedure two more times. Then offer for 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.

**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 consequential, 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. [20220427]

**NET CONTENTS:** \_\_\_\_\_

9.9 Lbs. Per Gallon / 1.188 Kg/L

**BRANDT**<sup>®</sup>

Manufactured by:  
Brandt Consolidated, Inc.  
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Springfield, Illinois 62711 USA  
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