

# MXT-1 BIO-GUARD TREATMENT FOR COOLING TOWERS & AIR WASHERS

### APPLICATION

Cooling towers provide a near-ideal environment for microbial proliferation. Warm water temperatures, nutrients, and constant exposure to the surrounding air encourage growth and virtually assure ongoing contamination by microorganisms. The U.S. Public Health Service Center for Disease Control & Prevention (CDC) has identified some of these organisms to cause human illness or death. OSHA Technical Manual Section III - Chapter 7 states that biocide control of such organisms is needed.

Unchecked microbial growth may also cause a rapid loss of heat-transfer efficiency by fouling piping, nozzles, packing, process heat exchangers, and drift eliminators. Growth under deposits or slime masses can yield accelerated localized corrosion of system metal components. These problems, due to growth and development of algae, bacteria, and fungi greatly reduce efficiency in a system and significantly increase operating costs.

Microbial organisms in nature vary considerably as a hazard to human health and in susceptibility to any particular bactericide. CH<sub>2</sub>O's **BIO-GUARD** series offers a wide variety of biocide products, which have been shown effective against microorganisms found in cooling tower waters.

**MXT-1** aids in controlling microbial growth in water-cooling towers and air-washers. It is effective over a wide pH and temperature range and is non-foaming. **MXT-1** is noncorrosive and does not contain heavy metals.

### WATERBORNE PATHOGENS

Legionella bacteria and other pathogens may be present in water systems. Application of a microbiocide does not guarantee the absence of such pathogens, nor is it possible or reasonable to eliminate all risk of infection. Users should develop a comprehensive water management plan in accordance with ANSI/ASHRAE Standard 188, OSHA guidelines (OSHA Technical Manual Section III:Chapter 7), and other guidelines applicable to the specific facility/system. CH<sub>2</sub>O, Inc. recommends that testing for legionella bacteria be incorporated in the facility's water management plan.

### SAFETY & HANDLING PROCEDURE

Use chemical resistant gloves and safety glasses or face shield when handling. Observe all safety precautions shown on the label and stated in the Material Safety Data Sheet.

### EFFECTIVE CONDITIONS

Product **MXT-1** is effective at most pH ranges found in normally operated cooling towers and industrial air washers. At a pH of 7.0 it is 3 to 30 times more effective than older technology quaternary amines. When used with oxidizing biocides a synergistic effect has been observed.

### DOSAGE & CONTROL

An initial slug addition of 6.13 to 15.32 fluid ounces of **MXT-1** per 1,000 gallons of water is recommended. Repeat initial dosage until control is evident. Subsequent slug additions of 1.53 to 15.32 fluid ounces of **MXT-1** per 1,000 gallons of water should be employed every 2 to 5 days, or as needed. The frequency of addition depends upon this relative amount of bleed-off and the severity of the microbiological problem. Slug additions should be made to the water sump of cooling towers. It is a violation of federal law to use this product in a manner inconsistent with its labeling.

Consult product label for use directions relating to industrial air washing systems. Daily testing is recommended to maintain proper control. Contact your CH<sub>2</sub>O Water Treatment Specialist or independent laboratory for further information on analytical testing. Failure to monitor and maintain treatment levels can cause damage and/or health issues. It is the customer's responsibility to monitor and maintain treatment levels.

### ACTIVE INGREDIENT

Poly[oxyethylene(dimethyliminio)ethylene  
(diemethyliminio)ethylene dichloride].....10%

### PHYSICAL PROPERTIES

pH of 1% Solution..... 5.0-7.0  
Pounds per Gallon..... 8.3-8.8  
Physical Appearance..... Light Amber  
Odor Lightly ..... Mild  
Flash Point ..... NA

### Seller Warranty

CH<sub>2</sub>O brand test reagent refills are available through your sales representative at no charge. Customers are required to confirm product compatibility via a control test for their specific application. CH<sub>2</sub>O recommends that you perform regular/daily testing to control chemical levels and cycles of concentration within established limits. Additional tests may be performed at your request. Test reports reflect conditions at the point when the analysis was performed. Results will change over time and with varying operating conditions.

Seller warrants that this product conforms to its chemical description and is reasonably fit for the purpose referred to in the directions for use when used in accordance with the directions under normal conditions. Buyer assumes the risk of any use contrary to such directions. Seller makes no other warranty or representation of any kind, express or implied, concerning the product, including NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS OF THE GOODS FOR ANY OTHER PARTICULAR PURPOSE. No such warranties shall be implied by law and no agent of seller is authorized to alter this warranty in any way except in writing with a specific reference to this warranty. The exclusive remedy against seller shall be a claim for damages not to exceed the purchase price of the product, without regard to whether such a claim is based upon breach of warranty or tort. Jurisdiction for any issues arising from or relating to this product shall be in the courts of the State of Washington and the venue shall be Thurston County. Any controversy or claim arising out of or relating to this contract, or breach thereof, shall be settled by arbitration in accordance with the rules and procedures as stated in RCW 7.06 and shall be binding upon both parties without right to appeal, and judgment upon the award rendered by the Arbitrator(s) may be entered in any court having jurisdiction thereof.

Applies to all products sold by CH<sub>2</sub>O, Inc., and is hereby communicated to all of its customers as a condition of sale. Use of CH<sub>2</sub>O products is subject to the Standard Terms and Conditions as listed on CH<sub>2</sub>O, Inc.'s website at: [www.ch2o.com](http://www.ch2o.com).