

# HALOX Markets and Applications For Chlorine Dioxide (ClO<sub>2</sub>)

| Market   | Applications  |
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| <p><b>Food And Beverage</b><br/>           NOTE: The USFDA has amended the food additive regulation (21 CFR Part 173.3) to permit the manufacture of ClO<sub>2</sub> by electrolysis of an aqueous solution of sodium chlorite. This ClO<sub>2</sub> "may be used as an antimicrobial agent in water used in poultry processing ...(and) as an antimicrobial agent in water used to wash fruits and vegetables that are not raw agricultural commodities..."</p> | <ul style="list-style-type: none"> <li>• Attacks (Salmonella, E. Coli, etc.)</li> <li>• THM control</li> <li>• Odor control (amines, ptomaines)</li> <li>• Microbiological control</li> <li>• Clean-In-Place Sanitizing</li> <li>• Pasteurizers, Bottle/Can Warmers, Coolers</li> <li>• Chain and Conveyor Lube Injection</li> <li>• Filler Head Assemblies</li> <li>• Water Filtration and Distribution System Disinfection</li> <li>• Mold and Odor Control of Environmental Spaces</li> <li>• Sanitation of Tanker Trucks and Rail Cars</li> </ul>   |
| <p><b>Potable Water And Water Hygiene i.e. Drinking Water and Stored Water</b></p>   | <ul style="list-style-type: none"> <li>• EPA-approved for both pretreatment and final disinfection.</li> <li>• Significantly reduces and controls Legionella pneumophila, Escherichia coli and other coliforms, Listeria, Salmonella, Staphylococcus aureus, Giardia cysts, algae, and viruses</li> <li>• Removes iron and manganese, promotes flocculation, and aids in turbidity removal</li> <li>• No THM's or haloacetic acids (HAA's)</li> <li>• Ideal for industrial water systems and community water purification plants; ideal for smaller water supplies such as cisterns and hospital water systems</li> </ul> |
| <p><b>Cooling Towers and Loops</b></p>   | <ul style="list-style-type: none"> <li>• Controls algae, planktonic and sessile bacteria including Legionella pneumophila, biofilm and scale</li> <li>• More stable than other oxidizing biocides; compatible with most water treatment chemistry</li> <li>• Reduces water consumption</li> <li>• Minimalizes salt build up; lowers chance for corrosion</li> <li>• Longer operating cycles between "blow downs"</li> <li>• Reduces scale on heat transfer component</li> </ul>   |
| <p><b>Healthcare</b></p>   | <ul style="list-style-type: none"> <li>• Controls Legionella pneumophila and biofilm</li> <li>• Removes iron and manganese and promotes flocculation</li> <li>• Removes noxious taste and odors</li> <li>• Controls algae, planktonic and sessile bacteria including Legionella pneumophila, biofilm and scale in cooling towers</li> </ul>   |
| <p><b>Marine</b></p>   | <ul style="list-style-type: none"> <li>• Potable and Technical Water Disinfection</li> <li>• Gray and Black Water Final Disinfection</li> <li>• Ballast Water</li> </ul>  |
| <p><b>Electronics</b></p>  | <ul style="list-style-type: none"> <li>• Circuit board preparation</li> <li>• Microchip manufacturing</li> </ul>  |
| <p><b>Waste Water</b></p>  | <ul style="list-style-type: none"> <li>• Safely oxidizes phenols, cyanides, aldehydes, and mercaptans, reduced sulfur compounds and some pesticides</li> <li>• Controls bacteria such as E. coli and other coliforms</li> <li>• Does not accumulate; used to reduce the growth of troublesome biofilms, iron bacteria, algae and other organisms that contribute to effluent fouling problems</li> <li>• Reduces foul odors in wastewater without producing chlorinated byproducts such as THM and HAA</li> </ul>   |