

Product Fact Sheet

Chlorine Dioxide Chlorine dioxide (ClO₂) is a highly effective, environmentally-friendly biocide. It is a selective oxidant that attacks planktonic and sessile bacteria, disinfects surfaces, and rapidly reduces biofilms. ClO₂ is a stable, dissolved gas that is a strong bactericide and virucide at concentrations as low as 0.1 ppm. With minimal contact time, it is highly effective against pathogenic organisms such as Legionella, amoebal cysts, Giardia cysts, E. Coli, and Cryptosporidium. ClO₂ reduces biofilms so bacterial regrowth is significantly impeded. ClO₂ does not ionize to form weak acids (as chlorine and bromine do) in aqueous solutions. This allows ClO₂ to be effective over a wide pH range.

CHLORINE DIOXIDE APPROVALS

- MPI Registered
- EPA

DISINFECTANT POWER OF ClO₂

Disinfectant Power of ClO₂ ClO₂ is shown to be an effective disinfectant at residual concentrations between 0.2 and 0.8 ppm. ClO₂ penetrates the cell wall of the microorganism and disrupts metabolic functions. This is more efficient than other oxidizers that “burn” whatever they come in contact with. This allows lower effective concentrations to be used. ClO₂, like ozone, is a dissolved gas that penetrates biofilm by molecular diffusion. However, unlike ozone, ClO₂ is stable and soluble, allowing it to travel to the base of the film where it attacks microorganisms and attacks and loosens the biofilm at its point of attachment. Other oxidizers react mostly on the surface of the biofilm to form an oxidized layer, like charring on wood. This precludes further penetration. No biocide has proved to control biofilm better than ClO₂.

APPLICATIONS

Cooling Towers and Loops: ClO₂ controls algae, planktonic bacteria, biofilm and scale for maximum efficiency of heat exchangers and ancillary equipment. ClO₂ is more stable than other oxidizing biocides and compatible with most water treatment chemistry. This “selective oxidation” makes ClO₂ ideal for systems with corrosion problems.

Potable Water: ClO₂ is EPA-approved for both pretreatment and final disinfection of drinking water. In pre-treatment, it effectively removes iron and manganese and promotes flocculation. It also removes taste and odor components as well as halogenated disinfectant byproduct precursors e.g. trihalomethanes (THM's). In post-treatment, it provides a lasting residual throughout the distribution system.

Food and Beverage: ClO₂ provides excellent microbiological control in flume waters, packaging operations and process disinfection. It is ideal for the washing of cut fruits, vegetables and poultry (FDA approved) as well as bottling and brewery applications. ClO₂ does not react with most “organics” in flume water, which makes it a very effective disinfectant. It also neutralizes foul smelling secondary and tertiary amines formed in the meat packing industry. Waste Treatment and;

Odor Control: ClO₂ safely oxidizes phenols, cyanides, aldehydes, and mercaptans, reduced sulfur compounds and some pesticides. It is useful in both waste treatment and scrubber systems.

Further Information

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