

InsituChem™ ClO₂

Chlorine Dioxide Program



Safe & Simple Chlorine Dioxide

Exceptional Performance

Chlorine dioxide is widely recognized as a premier disinfectant due to its unique ability to penetrate biofilms at low concentrations, to not be consumed by reactions with organics and ammonia, and to significantly reduce corrosion rates.

The challenge with chlorine dioxide has been safety concerns, high capital costs for the generators and higher operational complexity. Apex's InsituChem™ ClO₂ program addresses all these challenges so that our customer systems can be protected in an economical and best-in-class manner.

Benefits

- Best-In-Class Microbiological and Corrosion Performance
- No Upfront Capital Costs
- Lower Operational Costs (Typically)
- Apex Responsible for Repair/Replacement Costs
- Very Safe (No Acid and Low Concentration Produced Product)



The Details

Chlorine dioxide is traditionally generated using the 2-chemical reaction (acid-chlorite) or the 3-chemical reaction (acid-chlorite-hypochlorite). Although these methods are robust and proven, there is concern about the safety risk of handling multiple chemicals, especially acid. The Apex InsituChem™ ClO₂ electrochemical generators use only one precursor chemical: sodium chlorite and electrical energy to create chlorine dioxide. InsituChem™ ClO₂ generator includes an electrochemical cell which has an anode (+) and cathode (-) side. Electrical current is applied to the cell electrodes where oxidation and reduction reactions occur. Oxidation at the anode electrode converts chlorite ion (ClO₂⁻) to chlorine dioxide (ClO₂). The chlorine dioxide formed is dissolved in solution.