## Acid Activators for Chloride Dioxide



Mionix has developed FreshFlo $100^{\circledR}$ (FreshFlo) a low pH product used as an acid activator for Chloride Dioxide. FreshFlo is a proprietary product resulting from the blending of FDA approved Generally Recognized As Safe (GRAS) ingredients.

Advantages of Using FreshFlo as an Acid Activator for Chlorine Dioxide

| $\circ$ | Marketed as a concentrate |
| :--- | :--- |
| $\circ$ | Economical to use |
| $\circ$ | Reduced transportation and labor costs |
| $\circ$ | Ready-To-Use - No mixing required, no mixing errors |
| $\circ$ | No noxious odor |
| $\circ$ | No off-putting taste when added to water |

## Why should You use FreshFlo as an acid activator for Chlorine Management?

- The key to effective chlorine use is pH management.
- Chlorine dioxide concentrate, is a mixture of chlorine dioxide $\left(\mathrm{ClO}_{2}\right)$ and sodium hypochlorite $(\mathrm{NaOCl})$.
- The chlorinated compounds both disinfect through oxidation. However, both are functionally pH dependent. Under alkaline conditions ( $\mathrm{pH}>7.0$ ) ClO 2 breaks down to non-functional chlorite and chlorate, whereas sodium hypochlorite dissociates into non-functional sodium and hypchlorite ions.
- The functional entity in chlorine treated water is hypochlorous acid (HOCI).
- Formation of hypochlorous acid is dependent on pH .
- FreshFlo, when added to chlorine treated water lowers the pH and drives up the concentration of hypochlorous acid.
- Asseen in the chart below approximately $28 \%$ of hypochlorous ion exists in the HOCl form in water having a pHof 8.0 , whereas, approximately $92 \%$ of the hypochlorous ion exists as HOCl at a pH of 6.5 . Thus, the antimicrobial effectiveness of the chemically treated water is significantly increased.


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