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Diya Chemicals

Application Of **Green Dioxide(ClO₂)** in Milk Processing Industry.

Dairy is an eutrophication material and the process are vulnerable to microbial contamination, so it is very important to choose a suitable disinfectant. Chlorine dioxide sterilization not only is stronger than other disinfectant, and will not damage the nutritional content of dairy products either, to human and animals friendly. Chlorine dioxide has been used in almost all the required disinfection of food processing areas in developed countries.

Chlorine dioxide can be applied to disinfect in the manufacturing process of dairy products such as milk, goat milk, mare milk and other liquid dairy category, reconstituted milk, milk, milk tablets, milk fat, milk dairy, cheese, ice cream and milk casein, lactose, whey powder, whey protein concentrates and so on.

Application of **Green Dioxide(ClO₂)** in Milk Processing Industry.

Conveyor lubricant; Eliminates the biofilm residue under the conveyors and the slippery hazard on the floor beneath it. Easier to clean and bacteria free.

Case wash biocide; Milk cases are a frequent source of contamination in the filling room as they come directly from the outside environment to the most microbially sensitive area of the plant.

Filler/ finished product sprays; Excellent to wash down spills and finished product; haphazard spraying can transfer soils to clean areas. ClO₂ content will minimize this.

Transfer hose soak; Product transfer hoses can be soaked in ClO₂ solution, keeping them clean until needed for use.

Fillers parts sanitize during assembly; When assembling the filling equipment, place the fittings in a bucket of ClO₂ solution, ensures sanitary parts and hands!

Environmental foaming and fogging; Excellent sanitizer for environmental surfaces, mold and listeria control; can be foamed on environmental surfaces with no rinse required. Best option for phage control as fog or gas can be flushed through air spaces or conduit for microbial control.

PMO Compliance; The PMO states that all waters that are used to push processed milk products must be secondarily treated (chemically or through pasteurization). ClO₂ is superior due to low concentration needed and no organoleptic impact.





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Incoming water and cow water treatment ClO₂ is superior vs. all other treatment options, with quick biofilm elimination and high tolerance to organic loading .

Cooling Towers; Superior tower biocide .

Startup pre-flush; ClO₂ is superior due to low concentration needed and no organoleptic impact.

CIP Sanitizer; Sanitizers should match the process; if a processor is washing a circuit and rolling back into production, it is a waste of money to use an acidic CIP sanitizer as the acidic pH is not of value. Circuits that are put back in process after washing would be better served w/ ClO₂ as a sanitizer. Circuits that will be down for a period of time require an acidic sanitizer to remain microbially stable however.

Odor Control; Waste water applications with hydrogen sulfide or odors caused by microbial action can be dramatically improved through the use of ClO₂. Chill water/ ice banks excellent treatment for chill water and ice banks, non- corrosive and active at low temperatures

Tempered Water; Superb biocide for hot water systems, so long as water (and ClO₂) are contained in tanks or piping w/ low agitation.

Cheese Curd wash water; ClO₂ treated wash water in the curd wash water is superior to chlorine in that there is no chlorine “aftertaste” with improved flavor at end of code.

Dosing of **Green Dioxide(ClO₂)** Disinfection Method in the Dairy Processing

1. Disinfection in adjusting milk water and process water: chlorine dioxide concentration 0.5-1mg / l.
2. Disinfection for transportation, factory gate, footwear pool into the workshop: using 100-200mg / l chlorine dioxide disinfectant soaking and spraying.
3. Workshop and the internal cold storage disinfection: 1000mg / l Chlorine dioxide fumigating or 100-200 mg / l chlorine dioxide disinfectant spraying or rubbing.
4. Pipes, tanks and other CIP systems disinfection: 50-100mg / l chlorine dioxide with pump cycling more than 15 minutes, or soaking 8 hours and stay overnight.
5. Filling machine, filling heads, conveyors and other equipment surface disinfection: using 100mg / l chlorine dioxide disinfectant wiping.
6. Staff hands, footwear, clothing, tools and other items disinfection: with 30 - 100mg / l chlorine dioxide disinfectant soaking after washing.

