Healthier Way to Life RELYON

DEV TEX FAB

Application of RELYON for Food & Beverage Processing

General Background

RELYON is an environmentally safe liquid sanitizer, ideal for use in Food & beverage processing.

The unique RELYON patented formula is based on a two component Liquid concept. The two components are added to a designated amount of tapwater. After the reaction time (e.g. 1 hour at 40° Celsius, 2 hours at 25° Celsius) RELYON delivers a 0.76% chlorine dioxide solution that is chlorine free, does not contain copper sulfate and that is not explosive. The shelf life of RELYON ClO2 is approximately 30-60 days (depending on storage factors) to result in a powerful broad spectrum disinfectant. The shelf life of the two Liquid components is almost imperishable.

RELYON has a proven bactericidal, algicidal, fungicidal, sporicidal and viricidal efficacy. It is especially effective against Legionella and Salmonella Bacteria. Furthermore EPS bio films are easily removed.

Biocides are the “elite” of chemicals used for eradication of micro organisms. When choosing a meness or based on scientific differences. Chlorine is common used as biocide. Besides chlorine also **chlorine dioxide**, hypochlorite, ozone, UV-light
and sulfur-compounds are used for eradication of micro organisms.

Food & Beverage Processing : Chlorine dioxide (ClO2) provides excellent microbiological control for the food & beverage processing sectors in areas including brewing and bottling, fruit and vegetables (FDA approved application), poultry and other meats, fish, and dairy processes. ClO2 also provides excellent microbiological control in flume waters, packaging operations and process disinfection.

ClO2 does not react with most "organics" in flume water; this makes it a very effective disinfectant. It also neutralises foul smelling odours including secondary and tertiary amines formed in the meat packing industry.

Benefits of using chlorine dioxide for the disinfection of food products include:

- Holds a USDA D-2 approval as a terminal sanitising rinse, not requiring a water flush.
- Flow related chlorine dioxide dosing ensures continuous protection without having to shut down process or production.
- Reduced corrosion - the corrosive effects of chlorine dioxide are minimal compared to the corrosive effects of tap water.
- Simple to maintain, demand related and effective.
- Rapid microbial killing action.
- Maintains biocidal activity up to pH 11.
- Does not react with organics to form ecotoxic and bioaccumulative byproducts.
- Better tolerance to organics than chlorine or bromine.
- Environmentally safe surface disinfection.
- Eradication of bacteria in rubbers hoses and associated pipework can assist with Hygiene Audits.
- Non foaming.
- Can be used as an effective fogging and fumigation material.
- Effective in controlling micro-flora found on stainless steel food processing equipment.

Some Specific Application for Clo2 are :

Cleaning in place (CIP) & Sanitizing Operations:
ClO2 can be very effective when used as the final sanitising rinse in CIP systems, including filler rooms. Typically applied at between 2 and 5 ppm (where its kill-rate is in the order of 60 to 90 seconds) it leaves no toxic residues to interfere with

other chemical/biochemical processes. ClO2 works quickly and breaks down into inert compounds. The unique chemistry produces no toxic organo-chlorine by-products (such as THM's) and is therefore an environmentally friendly alternative. ClO2 is a proven virucide and fungicide and is effective in destroying detrimental wild yeast strains.

Cleaning pasteurizers, bottle/can warmers and coolers :
ClO2 effectively controls both free floating (planktonic) and attached (sessile) microorganisms. Sessile bacteria flourish in biofilms that build up due to ideal environmental conditions (temperature, nutrients, etc.). Biofilm build-up occurs on heat exchange surfaces, in pipes, lines, orifices and pumps. The resulting inefficiencies cost money on wasted energy, down time and repairs. ClO2 is the best available technology for controlling biofilms in these systems.

Additionally, the longer these waters can be retained in a sanitary condition, the more money is saved in water costs, water discharge, and energy to heat replacement water. ClO2 can be periodically batch loaded into the water system or metered on a timed basis. This can extend pasteurizer waters 4 to 6 times their previous discharge cycle.

Chain and conveyor line lube injection:
ClO2 can be injected into lubrication streams for effective slime control on conveyor lines. This allows for significantly longer run times between shut downs for cleaning, resulting in dramatic cost reductions. By attacking the biofilms attached to the conveyors and the underlying rails, various soils are loosened and the natural cleaning action of the lube is enhanced. Chains and conveyors run more smoothly, with less wear on chains and motors. Also, even small levels of ClO2 will help deodorise the line.

Filler head assemblies :
ClO2 solutions can be sprayed on filler head assemblies in 10-second bursts during breaks and lunch. The spray coats all surfaces attacking biofilms, inhibiting bacterial growth and deodorising the surrounding environment.

Water filtration and distribution system disinfection :
ClO2 effectively controls both planktonic and sessile microorganisms. Because planktonic cells are much easier to destroy, a disinfection procedure often produces excellent results initially, but within 7 to 10 days the counts return. ClO2 is able to penetrate, disrupt and destroy the biofilm where chlorine is completely ineffective.

Mould and odour control :
Misting of ClO2 solutions into air streams prevents the spread of mould and wild yeast. This controls "off-tastes" in the product.

Sanitation of tanker trucks, wagons and transportation vessels :
ClO2 solutions are effective for sanitising and removing biofilms from the insides of tanker trucks, wagons and transportation vessels. A thorough sanitising rinse of ClO2 with close attention to overhead surfaces can improve the quality of product, and significantly extend its shelf life.

Prepared by :-

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