

Gemini C-2500

-Liquid Alkaline One-step Cleaner

Technical Information

Product Description

Gemini C-2500 is an alkaline one-step (single cycle) cleaner for food processing equipment. Use of this product compresses cleaning times by reducing or eliminating the need for an acid wash step. In most applications it can be used without a final acid wash or acidified rinse, reducing cleaning steps, water use, chemical use, and energy. Use of this product may reduce the potential for chloride-induced pitting of stainless steel. Chlorine-free cleaning may prevent stainless corrosion and attack of gaskets, reducing preventative maintenance. Since the acid post-rinse step may be eliminated/reduced, less rinsing is needed. Waste water volume is decreased as well as associated effluent costs. Use of **Gemini C-2500** for Clean-In-Place (CIP) applications lowers operating costs by reducing water rinse time/usage for the alkaline post-rinse. Production efficiency is increased due to compression of cleaning times.

Gemini C-2500 is formulated for improved detergency (over the related product Gemini C-2000). This product has been reformulated to include a high level of proprietary surfactants, reducing water surface tension and facilitating penetration of the cleaning agents into the soil. The surfactant package in this product should provide good solubilization of fatty/oily soils. This product rinses freely from equipment during the rinse step, unlike commodity caustic and other chelated caustic alkaline products.

Gemini C-2500 contains a combination of water conditioners, enhancing the cleaning properties of the caustic alkali. The water conditioners/dispersants help prevent formation of surface-adherent mineral residues and scale on food processing equipment during the alkaline wash step.

Gemini C-2500 is a blend of both potassium and sodium alkali, reducing sodium loading in the effluent and further improving free-rinsing qualities. *Unlike some other alkaline one-step products, use of this product will not cause blackening/darkening of equipment.*

Gemini C-2500 designed for circulation of equipment under conditions of both low- or high-temperature cleaning. This product is versatile and well-suited for both CIP systems and COP washers. Use of this premium, well-built product, followed by an acid sanitizing step, provides an extremely effective cleaning program.

Properties

Form.....	Clear, light amber liquid
Specific Gravity (Relative Density), and Density.....	1.217 @67°F (1.217 @100°F), 10.14 lb./gal.
odor.....	Characteristic of surfactants
pH 1% Solution.....	12.60 (Litchfield, MN softened water, ~280 M alkalinity)
Normal Working Concentrations.....	0.5-3.75% by wt. or 0.4-3.2 fluid oz. per gallon (depending on application)
pH/Conductivity of Working Concentrations (75°F, ATC).....	wt/wt: 0.25% = 11.46 pH/2.07 mS, 0.50% = 12.20 pH/, 4.61 mS, 1.0% = 12.60 pH/9.65 mS, 2.0% = 12.60/18.75 mS (tested in softened water)
Maximum Solubility.....	Complete
Foam Level at Use Concentrations.....	Low foam at all CIP working concentrations (low-moderate foam at high product use levels)
Behavior in Hard Water.....	Conditions hard water
Rinsability.....	Good (periodically follow with an acid CIP step, ensuring removal of surface alkali residual)
Phosphorus.....	Does not contain inorganic phosphates
Biodegradation.....	Complete
Corrosivity (Use Solutions), ASTM Methods.....	Tested safe on stainless steel e.g., 304 and 316 alloys (avoid copper, brass, and aluminum)
Material Compatibility (Pumps, lines, gaskets,tanks).....	Teflon (PTFE), Kynar (PVDF), EPDM, PVC, CPVC, PP, HDPE for tanks
Composition.....	Caustic potash (potassium hydroxide), caustic soda (sodium hydroxide), polymeric water conditioning/dispersing agent, environmentally-safe threshold inhibitor (does not bind heavy metals), sodium gluconate, combination of proprietary surfactants

Directions for Use

For cold surface processing: As a starting point, the CIP or COP cleaning product concentration should be approximately 0.5-0.9% (0.5 - 1 fl. oz. per gallon water) at a temperature of 140-160°F (reduced temperature cleaning is also an option).

For hot surface processing: For the cleaning of surfaces involved in heat transfer operations, specific procedures and product usages will be recommended for each application. A starting point usage rate for CIP is 0.8-1.1% at 145-165°F. For heat plates and pasteurizers, the recommended usage rate is 1.5-2.5% at a temperature of 170-190°F. A representative will recommend a cleaning procedure for each application. For removing difficult protein soils (equipment cleaning via CIP systems), it is recommended to use peroxygen/hydrogen peroxide additive along with the one-step cleaner. Hydrogen peroxide at 200-750 ppm may be used (dispensed separately to the alkaline CIP wash tank). Do not use peroxide as a cleaning additive for cleaning equipment handling salt whey.

This one-step (single-cycle) cleaner is recommended for cleaning applications that involve either cold surfaces or those involved in heat transfer operations. Usage depends upon soil conditions and the type of equipment being cleaned. This product is designed to reduce acid wash cycles. In some cases, an acid wash may be needed periodically to completely remove all mineral films that could potentially build up over time. In high heat processing, no alkaline cleaner can eliminate all acid washing requirements. It is beneficial to sanitize the equipment with an acid sanitizer following the final rinse after the alkaline wash step, as this may allow for the complete elimination of the acid wash step. In some cases, the acid sanitizer may minimize mineral films but an acid wash may be needed periodically. Due to the water conditioners in this product (that bind/disperse minerals in the alkaline wash step), together with improved alkali-rinsing (due to surface tension reduction by the surfactant), no acid washing is typically needed (or, at a minimum, significantly reduced acid washing).

Safety Precautions

Caution: Keep out of reach of children. Read label and SDS information for complete listing of hazards.

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Revision Date

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