

Glycolic Acid

Dairy Cleaner

Product Information

Glycolic acid has been used for many years as a dairy cleaner. It is particularly effective at dissolving casein, a milk protein found in milkstone, as well as hard water deposits.

Advantages

- Glycolic acid is a good environmental choice. It is readily biodegradable, non-volatile, and phosphate-free.
- Glycolic acid is easy to handle. It is non-toxic and non-fuming.
- Glycolic acid dissolves calcium carbonate and iron oxide scales faster than phosphoric acid; therefore, it may decrease process downtime for cleaning.
- Glycolic acid has a higher capacity for calcium carbonate than phosphoric acid. One pound of 70% glycolic acid will dissolve as much calcium carbonate as 1.2 lb of 75% phosphoric acid. The resulting calcium or iron glycolate salts are highly water soluble vs. insoluble phosphates.
- Glycolic acid is essentially chloride-free. It will not cause the chloride stress cracking in stainless steel normally associated with hydrochloric acid; so, glycolic acid use can prolong equipment life.

Background

The modern dairy processing industry is undergoing consolidation from many small dairy processing plants to fewer large ones. In modern dairy processing plants, most equipment is cleaned in place (CIP). As much cleaning as possible is done automatically, with minimal human intervention. Dairies prefer to save time by cleaning with food-grade cleaners and then just draining and refilling their equipment with dairy product. These cleaning trends save the dairies in labor costs and allow them to maximize throughput to meet demand.



Because milk products are some of the most perishable major foods, cleaning and sanitization in that industry generally require the highest standards. Dairy process cleaning technology is frequently adaptable to other food industries, because the soils produced by other food processing are usually similar to dairy soils but easier to remove. Cleaning advice, equipment, and services are often provided by companies focused on servicing the cleaning needs of the dairy and food industries. In these cases, acid formulations are developed and recommended by the service company. The dairy or food processor would be the direct customer of the service company and would not purchase many unformulated chemical cleaners. Dairy equipment is generally cleaned by a series of solutions and drained in between steps. A typical cleaning process is: water rinse; alkaline cleaner (removes fats and proteins); optional water rinse; acid cleaner (or combination acid cleaner and sanitizer); optional water rinse; sanitizer (if acid sanitizer is not used); optional water rinse. Glycolic acid is classified as an "A3" acid cleaner by the National Sanitation Foundation (NSF). This classification requires

that: "before using these compounds, food products and packaging material must be removed from the room or carefully protected. After using these compounds, all surfaces in the area must be thoroughly rinsed with potable water." Visits to dairy processing plants indicate that increased product shelf life as well as consistent product quality are very desirable. One way dairy processors achieve this goal is by cleaning more often and sanitizing more effectively than in the past. Recent popularity of foods and beverages containing little or no preservatives places additional demands on food and dairy cleaning processes. Fast, efficient, effective cleaning methods and chemicals in the plant are critical for food and dairy processors to meet the needs of their downstream customers.

For more information, visit glycolicacid.chemours.com or call (800) 441-9593.

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