



ClorDiSys

Solutions For All Your Gaseous Chlorine Dioxide Needs

The Chlorine Dioxide People

Application Note #43

Initial Decontamination of a Food Production Facility

There is No Such Thing as Clean Construction

Construction unfortunately cannot be performed under aseptic conditions. Construction workers and others who visit construction sites are not held to any aseptic processes and procedures when entering the construction area. That means whatever is picked up outside the facility is being brought into the facility, including microorganisms and contaminants. Tools, construction materials, and equipment are being brought inside as well, to add another potential source for bringing in dirt and organisms. Whether or not it is allowed, food is sometimes brought in and consumed within the construction area, allowing another opportunity for organisms to be introduced. Prior to the installation of roofing, walls, windows and doors, the facility may be subject to the introduction of rain, weather conditions, insects, birds and other animals. Any organisms brought into the facility are then tracked throughout the construction area, and allowed time to find niches before construction is complete and any sanitation takes place. At the end of construction, traditional sanitation takes place, but may not be able to eliminate all pathogens, molds, and other organisms that have found their way into the facility.

In 2008, Malt-O-Meal voluntarily recalled its unsweetened Puffed Rice and Puffed Wheat cereals after finding Salmonella Agona during routine testing. During the subsequent FDA investigation, molecular subtyping matched the current contamination strain of Salmonella Agona to one found within the facility 10 years earlier in 1998. The initial 1998 contamination found the source to be the floor within one of the rooms of the facility. After unsuccessful attempts to eliminate the contamination, it was decided to seal the floor with a new layer of cement. This approach worked for 10 years until a renovation took place that found new equipment being installed in that room. The equipment was anchored into the floor, and that process tapped into the dormant Salmonella Agona reservoir and allowed it a pathway to reenter the production area. The resulting recall covered over a year's worth of product, but more importantly resulted in 209 reported illnesses and 47 hospitalizations across 10 states.

Why Chlorine Dioxide Gas?

Chlorine dioxide gas is the most effective method of decontamination available. It provides a more complete level of kill compared to traditional sanitation methods that involve the spraying or fogging of liquid chemicals as its able to more reliably contact pathogens and organisms wherever they may be residing or hiding. As a true gas, CD gas fills the area it is introduced into evenly and completely, ensuring that all surfaces receive an equal dose and equal kill level. The CD gas molecule is smaller than all microorganisms, so there are no crevices or harbor locations where microorganisms would be protected from CD gas. ClorDiSys' chlorine dioxide gas process is registered with the US EPA as a sterilant, meaning that it's proven capable of

eliminating all viruses, bacteria, molds, and spores. Effective in both dry and wet conditions, chlorine dioxide gas has been used by the dairy, produce, meat, grain, spice, frozen, pet food and beverage industries. ClorDiSys' chlorine dioxide is residue-free, making it safe for use on food contact surfaces and other critical environments.

Protect Your Investment

As the construction of a facility can never be performed under aseptic conditions, it is essential to establish a clean baseline for the facility before production starts. Chlorine dioxide gas offers the most effective and most reliable method of decontamination, eliminating organisms within niches and harborage locations to provide a sterile and residue-free environment upon completion. Considering the cost of construction or renovation, the cost of a complete decontamination is often negligible, especially when considering it guarantees that the facility is safe to operate and produce food.

About ClorDiSys

ClorDiSys Solutions, Inc was established in 2001 and provides decontamination equipment and services for the food industry. Our founders developed our chlorine dioxide gas decontamination process while at Johnson & Johnson and have maintained the medical device industry's requirements for safety and tight process control within ClorDiSys. This high level of process control allows for a reliable and repeatable decontamination process to satisfy the needs of the most critical environments.

