Application In Beverages

Current sanitation scenario.

Hypochlorite

Cleaning products that contain hypochlorite (OCl–) should not be used anywhere near the winery, especially the production and hospitality areas, specifically the tasting room.

Formation of 2,4,6-trichloroanisole

Presence of chlorine is one of the two major contributors to the production of 2,4,6-trichloroanisole (TCA), the compound that causes a moldy, musty cork taint. TCA's sensory threshold is one of the lowest in nature at around 1 to 5 nanograms per liter. The second requirement for TCA formation is the presence of molds. They are common even in watertight caves and cellars due to frequent rinsing of tanks and floors and the desirably high relative humidity (80 percent or more) in barrel rooms, which minimizes evaporative losses of wine. Chlorinated and mold-methylated phenolics from materials such as wood or cork bark are known as chloroanisoles, and their equally potent bromine analogues are bromoanisoles.

Airborne TCA

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Chlorinated cleaning products

Unfortunately, it is not always easy to immediately recognize that a product contains hypochlorite. Look closely at the ingredient list in dishwasher detergents (for tasting glasses), kitchen and bathroom cleaners, disinfecting wipes, and anti-allergen and sanitizing sprays. You also should watch out for fabrics and textiles that were treated with proprietary coating techniques that bind hypochlorite and prolong the presence of chlorine bleach. Because it is easily inactivated on contact with organic matter, chlorine often bleaches the dirt without removing it, while leaving a "clean" (only by association) smell behind.

Water quality

In addition to eliminating hypochloritebased cleaning products, wineries should not use chlorinated municipal water for processing grapes or wine, such as when rehydrating yeast or malolactic bacteria or when rinsing destemmer-crushers, tanks, or hoses, etc. If there are no other options, the water must be pretreated with high-capacity, in-line carbon filters that are maintained on a very regular basis and exchanged frequently.

Chlorine dioxide

In recent years, chlorine dioxide (ClO_2) has been introduced to sterilize containers in the food industry. Bacteria, yeast, molds and spoilage microorganisms are the enemies of fine wine product.CDD 5000 is recommended for use in beverages treatment. ClO_2 generated by CDD 5000 does not have free chlorine hence by using CDD 5000 the benefits of ClO_2 can be taken without disadvantages of ClO_2 generated with chlorine contamination.

Although Chlorine Dioxide has the word Chlorine in its name but two chemicals have completely different chemical structures of its revolutionary formula. The additional oxygen atom radically changes the molecule and creates completely different chemical behaviours and by-products. Their differences are as profound as those between hydrogen, the explosive gas, and hydrogen combined with oxygen, which creates di-hydrogen oxide – commonly called water.

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