

NEW PRODUCTS

What's Cool

Products that are smart, make your tasks easier and provide cost or labor savings.

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Green Products for Winery Sanitation

Colloidal micelles: The sub-microscopic workhorses

While visiting last October's **Napa Valley Viticulture Fair**, I found a line of cleaners and sanitizers from a company called **Wise Solutions**. Based in California's Monterey Bay area, they are part of the "green chemistry" generation of companies that work without toxic chemicals and "leave no trace." A review of their product list shows they have taken time to address the wine industry and develop products that translate perfectly into the winery and vineyard.

The first is their **Wine Tank, Barrel & Pipe Cleaning Solution**. This product is based on colloidal chemistry—as are their others for wastewater treatment and mold elimination. While colloidal cleaning is not new technology, it is nice to see someone taking it from the food processing industry and applying it to our specific needs.

The active ingredient in colloidal chemistry is colloidal micelles, extremely small particles roughly the size of 10 hydrogen atoms or about 1/80,000 the width of a human hair. When mixed with water, the highly active positive and negatively charged micelles actually cut through carbon chains and emulsify organic matter.

As a result, heavy tartrates (calcium, potassium) and proteins are simply broken down and dissolved. Because these materials are now part of the colloidal mixture, they do not reconstitute or redeposit and are then simply flushed from the system.

The effectiveness of the product reduces steps in the cleaning process, thereby saving water and repetitive labor. The application works at 60°F to 70°F and therefore saves energy. The product is non-toxic, non-corrosive, non-hazardous, contains no VOCs, generates less waste and is a 100 percent bio-based renewable resource that is safe to transport and store. Workers and insurance companies will like it because there is no need for protective clothing.

Application is best done through the use of a power washing system like a **Gamajet** impingement head or an existing CIP installation. Any source of agitation works, including a brush in hand. As to be expected, temperature-time-pressure accelerates the process but is not necessary. The product is **National Sanitary Foundation (NSF) A-1** certified for general cleaning in any food processing facility.

As mentioned, Wise Solutions has a wide selection of products and all are just as impressive. Their **Colloidal Bio-Pest Control** is also micelle chemistry but works differently from most pesticides. Usually chemical pest controls affect the insect's



Wise Solutions president Jeremiah Ridenour promotes non-toxic solutions for tank cleaning.

bodily functions. Here the carbon in the bug's chitin (exoskeleton) is disrupted. No skeleton, no bug. The product meets with all **Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)** non-toxic controls, and final studies are being conducted at the **UC Davis Entomology Department**.

Mold and odor elimination is just as easily accomplished, and the colloidal action will even penetrate into the root zones of molds, breaking them up to be washed away.

Wastewater treatment results in the improvement of biological oxygen demand or the rate microorganisms utilize oxygen. Upstream use of Wise products helps keep holding ponds and piping free of algae.

And how about lubrication? This company has developed 11 patents for vegetable oil formulation to replace all fluids in a tractor. Hybridized sunflower and



canola oils result in oil with 80 percent oleic content. When compared to petroleum, the fluid strength (lubrication) with oleic oils is improved and they last longer, by over 200 percent. Finally they are certified **PW-1** by the **American Society of Testing Materials (ASTM)** to biodegrade over 60 percent in only 28 days.

What's Cool: With increasing concerns about water and energy usage, along with inherent cleaning issues in the winery and the resulting bio-waste, Wise Solutions is tackling those problems head-on. While the products tend to be more expensive initially, cost savings are everywhere with their application—from overall effectiveness and time savings to worker safety.

For wineries heading toward sustainability and “going green,” the products mentioned and others in Wise Solutions’ wide portfolio should be considered. As a new company (2006), their distribution is still limited, though available through direct shipment nationally. The best bet is to work directly with the parent company.

For more information, contact Wise Solutions in Freedom, California at 800-491-9473 or www.wisesolutions.net or Pacific Coast Chemical representatives at 510-549-3535. **wbm**

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