

## GENERAL CLEANING AND SANITATION

### Background:

In the premium wine industry, quality wine is made through attention to detail. Premium wine is made with selective cultures of yeasts for the primary or alcoholic fermentation and selective bacteria for the secondary or malolactic fermentation. Just as good yeasts and bacteria can produce quality wine; there are spoilage yeasts and bacteria that can produce spoilage off characters or even vinegar. Quality wine cannot be produced AND maintained without strict sanitation procedures. Spoilage organisms can be in anywhere in the winery's process equipment. Adherence to the sanitation policies can virtually eliminate spoilage.

- . Effective cleaning and sanitation practices are among the most important procedures in the winery!
- . If the proper procedures are not used to clean, sanitize and sterilize, harmful spoilage yeasts and bacteria will grow in and on tanks, barrels and equipment leading to contamination of our wines. This will give the wine bad aromas and flavors.

### Guidelines for cleaning and sanitation.

Individual procedures will have cleaning, sanitation and sterilization instructions included in them. This section of the production manual is to provide you, the production employee, general guidelines of cleaning, sanitation, and sterilization. There are three terms that will be used to describe the degree of cleanliness.

**Cleaning** - The action of removing solids, films, stains and tartrates. Cleaning is accomplished using chemicals and/or pressurized water.

**Sanitation** - The action of reducing microbiological organisms to an acceptably low level in or on tanks and equipment. Generally accomplished through the use of PM.

**Sterilization** - The action of killing microbiological organisms in or on equipment. Sterilization is achieved with heat, using 180° (exiting value) water for a minimum of 20 minutes.

*Chemicals* - Generally, the amount to use varies with how dirty the item is that needs to be cleaned. It is often necessary to apply several treatments to clean equipment. Re-circulation is absolute to performing a good cleaning and sanitation while conserving water.

# Cleaning Procedures

## Tank Cleaning Procedure:

Tank cleaning should be done after a tank is emptied. It is our goal to have all empty tanks clean at any given time. It will make sanitizing much faster when we need tanks. The preferred chemical is Filmaway HD that is a Potassium Hydroxide based cleaner.

1. Assure the tank to be cleaned is secure enough so excessive over spray does not occur (bottom door, racking door, manhole door on tank top, valves, etc.).
2. Remove guth vent cap and sanitize it in the sink and store properly on the shelf
3. Place a sanitation tub under the bottom opening of the tank.
4. Place pump at the bottom of the tank.
5. Attach one end of a short suction hose to the pump and place the other end in the sanitation tub.
6. Attach a 2" hose to the discharge end of the pump.
7. Attach a strainer to the end of the 2-inch hose.
8. Attach a tank washer to the strainer.
9. Place the strainer-tank washer combination in the tank.
10. Fill the sanitation tub with 30 gallons of water.
11. Inspect the tank to determine the concentration of chemical to be used.
12. While wearing all the proper PPE, add the appropriate amount of Filmaway HD tank cleaning agent according to how dirty the tank is. This is a judgment call but standard guidelines are:
  - 2# of powdered Filmaway HD per 30 gallons of water for cleaner tanks or,
  - 4# of powdered Filmaway HD per 30 gallons of water for dirtier tanks.Always make sure that your cleaning solution is between 11.3 and 12.3 pH units. Add enough Filmaway HD to achieve the pH range.
13. Turn on pump and make sure the tank washer is rotating by listening to the spray on the sides of the tank. If the unit is not turning, it will have to be cleaned, repaired, or replaced.
14. Circulate the Filmaway HD solution for a minimum of 20 minutes.
15. While the tank is circulating, use a bottlebrush and scrub brush to clean the inside of all valves on the tank, the tank door, the door gasket, and the sample port.
16. On the tank top during circulation, use a bottlebrush and small pitcher of Filmaway HD solution to the top and scrub the guth vent pipe. Do not inspect the guth vent pipe while the tank-washing unit is rotating.
17. After the circulation time is complete, turn off the pump and allow the solution to drain back into the tub. Open the racking door and inspect the cleanliness of the tank
18. If the tank is not clean after the 20-minute circulation, dump dirty solution down the drain and start with a fresh Filmaway HD solution and repeat the process.

## Draining and Rinsing:

1. After the tank is clean, pull the tub away from the bottom door and empty the Filmaway HD solution from the tub, into the tank, and down the drain.
2. Fill the tub with fresh water and turn the pump on to begin the rinsing process.
3. Continue to fill the tub with water letting the water drain out of the tank onto the floor for 2 minutes.

4. Turn off the water into the tub and allow the pump to empty the tub and then shut it off.
5. Rinse all floors, tank pads, and drains free of all Filmaway HD residue and sediment.
6. Secure the tank as if it were ready to receive with the exception of the bottom valve so residual water can continue draining.
7. Break down and properly store all equipment and fittings.

## **Tank Sanitation:**

### **Sanitation with Lancer 5% (Peroxyacetic Acid (PAA))**

Lancer 5% is a Peroxide based sanitizing agent that comes in a bulk concentration of 5%. The solution will have to be diluted to a 60ppm concentration for effective tank sanitation.

1. Assure the tank to be cleaned is secure enough so excessive over spray does not occur (bottom door, racking door, manhole door on tank top, valves, etc.).
2. Remove guth vent cap and sanitize it in the Lancer 5% solution once it is made up in the tub.
3. Place a sanitation tub under the bottom opening of the tank.
4. Place pump at the bottom of the tank.
5. Attach one end of a short suction hose to the pump and place the other end in the sanitation tub.
6. Attach a 2" hose to the discharge end of the pump.
7. Attach a strainer to the end of the 2-inch hose.
8. Attach a tank washer to the strainer.
9. Place the strainer-tank washer combination in the tank.
10. Fill the sanitation tub with 30 gallons of water.
11. While wearing all the proper PPE, dose the Lancer 5% at a rate of 250 mils. / 30 gallons of water into the tub. This will give you the required 60ppm concentration.
12. The dosing cart with pressurized Cornelius kegs reads in liters so a decimal conversion will need to be determined for mils. For example, if you need to dose 250 mils into 30 gallons you would need to dose the Lancer 5% into the 30-gallon tub until the batch meter reads 0.25 liters.
13. Turn on pump and make sure the tank washer is rotating by listening to the spray on the sides of the tank. If the unit is not turning, it will have to be cleaned, repaired, or replaced.
14. Circulate the Lancer 5% solution for 10 minutes.
15. While the tank is circulating, use a bottlebrush and scrub brush to clean the inside of all valves on the tank, the tank door, the door gasket, and the sample port.
16. On the tank top during circulation, take a bottlebrush and small pitcher of Lancer 5% solution to the top and scrub the guth vent pipe. **Do not inspect the guth vent pipe while the tank-washing unit is rotating.**
17. After the circulation time is complete, pull the tub away from the bottom door and let the pump empty the Lancer 5% solution from the tub, into the tank, and down the drain.
18. No rinsing is required after Lancer 5% sanitation.
19. Secure the tank as if it were ready to receive with the exception of the bottom valve so residual water can continue draining.
20. Break down and properly store all equipment and fittings.