

## Storage of Zeta Plus™ Series, and LifeASSURE™ Series Filters Used in the Filtration of Wine

### Introduction

Filter products from 3M are used to provide clarity and microbiological stability to still wines, sparkling wines, and wine based beverages. If at the end of a filtration run the filters have not achieved the terminal differential pressure recommended for filter change-out, typically 35 psid or less, they can be stored for reuse on the next filtration run.

Zeta Plus™ series filters (clarification, bioburden reduction), and LifeASSURE™ series filters (membrane prefilter and final filters), can be stored in either hot water or a bacteriostatic solution, to limit bioburden growth and extend the useful service life of the filter.

The methods employed by wineries will vary according to duration of storage required, the type of wine filtered, the bioburden (bacteria, yeast) present in the wine, and the temperature of storage, among other variables. 3M recommends that this document serve as a guide only, and that wineries develop storage procedures appropriate for their local conditions.

At all times, consideration should be given to worker safety and compliance with local regulations regarding the use of cleaning and storage chemicals.

### Recommended Storage Guidelines

#### *Short-Term Storage (1-2 days)*

- At the end of the filtration cycle, warm water regenerate the filter according to 3M Technical Brief 70020253400 (Warm Water Regeneration of Zeta Plus series, and LifeASSURE series Filters).
- Hot water sanitize the system. This is typically accomplished by flushing the system with 80 °C filtered water for a minimum of 30 minutes. Ensure that the entire system is at temperature by measuring the temperature at the farthest point from the hot water inlet. Also be sure to crack all valves, including bleed and vent valves, to ensure that the hot water reaches all points of the system.
- Once the housing has been at temperature for 30 minutes or more, discontinue flow and close the inlet and outlet housing valves (including the vent valve). The housing, now filled with hot water, can typically be stored for 1 to 2 days without appreciable bioburden increase.
- When filters are required for use, re-sanitize the filter and housing with hot filtered water.  
**Note:** The duration of storage using this method is dependent on the level of bioburden in the wine. Wines with higher bioburden may only be effectively stored using this method for 24 hours.

#### *Long-Term Storage (greater than 2 days)*

- At the end of the filtration cycle, warm water regenerate the filter according to 3M Technical Brief 70020253400 (Warm Water Regeneration of Zeta Plus series, and LifeASSURE series Filters).
- Hot water sanitize the system. This is typically accomplished by flushing the system with 80 °C filtered water for a minimum of 30 minutes. Ensure that the entire system is at temperature by measuring the temperature at the farthest point from the hot water inlet. Also be sure to crack all valves, including bleed and vent valves, to ensure that the hot water reaches all points of the system.
- Drain the filter housing, allow to cool, and remove the filter cartridges.
- Remove all gaskets and O-rings from the filter cartridges and store separately.
- Prepare a solution of sodium metabisulfite (commercially available from most wine supply companies) to a concentration of 500 – 1000 ppm. Acidify with citric acid to a pH of 3.
- Place filter cartridges in a container with the sodium metabisulfite solution and seal. (Exercise caution in handling the solution. wear appropriate protective clothing and avoid breathing fumes. Refer to the Material Safety Data Sheet, supplied with the chemical, for additional precautions.)

- Periodically (once per week) monitor and maintain the solution concentration.
- This solution can also be used when the filter cartridges are still contained in the filter housing, although extended exposure of housings surfaces to the sodium sulfite solution can result in marring of the internal housing finish
- 3M recommends storage of the filters for a maximum of one month. Although wineries have reported successful filter cartridge storage exceeding this limit, the results are dependent on local conditions specific to the winery, such as temperature of storage, bioburden of wine, style of wine, and maintenance of storage solution. If desired, longer term storage procedures should be developed with respect to the individual conditions that exist at the winery.
- When filters are required for use, remove them from the storage solution, fit them with o-rings, and install them in the filter housing.
- Flush the filters with clean, filtered water to remove any residual storage solution.
- Hot water sanitize the filter.

Additional technical service can be provided by your local 3M Purification Inc. Distributor or the 3M Purification Inc. Scientific Applications Support Services (SASS) department, (800) 243-6894.

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#### 3M Purification Inc.

400 Research Parkway  
Meriden, CT 06450  
U.S.A.  
(800) 243-6894  
(203) 237-5541  
Fax (203) 630-4530  
www.3mpurification.com

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