

Long-Term Storage of Zeta Plus™ H and MH Series Filter Cartridges in a Chemical Sanitizer (Oxonia Active®).

Introduction

Filters used in Food and Beverage applications are routinely sanitized to reduce the bioburden populations and provide a sanitized (if not sterile) environment during production. Hot water sanitation is generally preferred over chemical treatments for short-term sanitation. It is typically applied prior to the beginning of a production run and at the end of a production run, to sanitize the production equipment. When the use of hot water cannot be conveniently employed, or if longer-term storage is required, such as overnight or over a weekend, chemical sanitation is the preferred and recommended procedure.

Oxonia Active® (a commercial sanitizer produced by Ecolab, Inc. containing a mixture of hydrogen peroxide and peroxyacetic acid) can be easily employed for chemical sanitation. The temperature, concentration, and duration of the sanitation cycle are important considerations when using this chemical sanitizer. In general, these parameters should be optimized to ensure proper sanitation and if required, should be validated on-site. An equally important consideration is the compatibility of the filter media with the sanitizer of choice, in this case Oxonia Active.

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

Recommended Short Term Sanitation Guidelines

- 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).

If hot water (80 °C – 90 °C) is available:

- Flush the filter in the forward direction with filtered hot water for a minimum of 30 minutes to drain. (Refer to 3M Technical Brief 70020220268). 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, vent and drain valves, to ensure that the hot water reaches all points of the system.

If hot water is unavailable:

- Drain the filter housing of the remaining warm water. Do not proceed to the chemical sanitation step until the filter housing has cooled to ambient temperature.
- Slowly fill the filter housing with Oxonia Active at a maximum concentration of 1.0% v/v. Follow all safety precautions provided by the sanitizer supplier.
- Once the filter housing is filled with Oxonia Active, close all housing valves.
- Zeta Plus H series media and MH Series media can be exposed to Oxonia Active at a maximum concentration of 1.0% v/v for a maximum of 30 cumulative days.
- After storage, and before use, drain the sanitizing solution from the filter housing. Follow all safety precautions and disposal recommendations provided by the sanitizer supplier.
- To remove any residual sanitizing solution in the filter media, flush the filter in the forward direction for 15 minutes with filtered, ambient temperature water at a flux rate of 0.5 gpm/ft² of filter media installed.

Additional technical service can be provided by your local 3M Purification Inc. Distributor or the 3M Purification 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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