

MFI flow cell cleaning guidelines

Quick Reference Guide



Prior to initial use, and after running samples, ProteinSimple recommends cleaning the flow cell using the following guidelines.

NOTE: Do not clean flow cells in ultrasonic baths or with cleaning solutions warmer than 40 °C. If detergent is used, clean flow cell immediately with flush water to prevent detergent from drying out, and thus avoiding flow cell damage. This cleaning procedure is a guideline only. It may not be suitable for specific applications. ProteinSimple does not guarantee that the procedure will always be effective.

Flow Cell Cleaning Guidelines

1. In the MVSS software, choose System Flush/Preview under the Systems Operation menu. Thoroughly flush flow cell using filtered (0.22 µm) water by setting the pump to maximum flow rate or press the Prime button. Often, flushing with water is enough to clean the flow cell. We recommend performing a flow cell integrity check or a visual inspection after flushing with water. If the check fails or the flow cell appears dirty, proceed to step 2.
2. Replace water sample with a filtered (0.22 µm) detergent solution such as Liquinox® ≤5% or Micro-90 ≤2% (see table for more information on detergent options).
3. Set pump to maximum flow rate or press the Prime button.
4. The exact time to clean will vary. Most sample types require less than 2 minutes to be removed from the flow cell.
5. Flush detergent from system using 0.22 µm filtered water. The rule of thumb is to flush for at least as long as the detergent was used (detergent residue can form a precipitate that may damage the flow cell).
6. Remove flow cell from holder and swab exterior surface using filtered water and a lint-free swabbing component such as Texwipes® TX743B CleanTip® Swabs. After removing excess isopropyl alcohol (IPA) from swab, pass swab in one direction, over the sensing zone area, on the exterior glass and in one motion. Rotate swab to a fresh surface and repeat. Do not use the same surface of swab twice. Ensure all water has been removed from surface of flow cell prior to re-insertion to holder. If required, this step can be repeated using analytical grade IPA. If the exterior glass is still not sufficiently clean, repeat the step with detergent, followed by rinsing the exterior with filtered water to remove the detergent.

Some flow cells have been treated with a hydrophobic silane coating to inhibit particle adherence. Certain detergents can accelerate the degradation of this coating. The table below lists the detergents we recommend for use in cleaning silane-coated flow cells, as well as those detergents that are not recommended for use.

Product No.	Detergent
4002-002-001 4002-003-001	Recommended • Liquinox® (Alconox, Inc.) ≤5% (v/v) diluted in water • Micro-90 (International Products) ≤2% (v/v) diluted in water
	Not Recommended • PCC54 • Hellmanex™ III • Contrad70

NOTE: This is not an exhaustive list and is only a recommendation. In general, detergents with higher pH values will be more likely to damage or degrade the flow cell silane coating, even at low concentrations, and should be avoided.