

Routine Cleaning for the ACQUITY UPLC® System

Follow the steps in this procedure to clean the ACQUITY UPLC System when:

- increasing noise and/or baseline drift is seen in UV-based systems
- loss of sensitivity and/or poor signal-to-noise ratio is seen in MS-based systems
- low energy is observed when running ACQUITY UPLC Console lamp energy diagnostics (refer to ACQUITY UPLC Console online Help)
- distorted peaks and/or high injection counts observed in applications using complex biological sample matrices
- it is necessary to restore the system flow path to a near-new level of cleanliness

NOTE: For information on other ACQUITY UPLC cleaning methods, refer to the "Recommended Cleaning Mixtures for LC" table in the "Controlling Contamination in UltraPerformance LC®/MS and HPLC/MS Systems" document, P/N 715001307.

To clean the system:

1. Remove all solvent filters.
2. Disconnect the column and attach a union (P/N 700002636) or flow restrictor (P/N 205000547) to the column inlet and outlet lines.
3. Place A1, A2, B1, B2, seal wash, weak needle wash, strong needle wash, and seal wash lines into a clean bottle containing **100% isopropanol**.

NOTE: If there is an incompatibility between the mobile phase or solvents with the Isopropanol, flush first with the appropriate intermediate solutions to ensure compatibility.

4. Prime solvent lines A1, A2, B1, and B2 for **5 min** each.
5. Prime the seal wash.
6. Prime the wash and sample syringes for **5** cycles.
7. Purge the system at **0.2 mL/min** for **5.0 min** using **50% A1** and **50% B1**.
8. Repeat [step 7](#) using **50% A2** and **50% B2**.
9. Perform **15 full loop** injections using **5X overflow** from a vial containing the cleaning solvent. **Run Time = 0.5 min / Flow Rate = 0.2 mL/min**.
10. Repeat [step 3](#) through [step 9](#) using **100% methanol**, except use a Flow Rate of **1.0 mL/min** for [step 7](#) through [step 9](#).
11. Repeat [step 3](#) through [step 9](#) using **MilliQ water** (or equivalent), except use a Flow Rate of **1.0 mL/min** for [step 7](#) through [step 9](#).

CAUTION: IF AN MS DETECTOR IS CONNECTED, TAKE IT OFF LINE **BEFORE** PERFORMING [step 12](#). DIRECT THE FLOW FROM THE UNION OR RESTRICTOR OUTLET TO WASTE. IF APPLICABLE, YOU CAN LEAVE A TUV OR PDA DETECTOR ON LINE, HOWEVER YOU MAY NEED TO REPLACE THE BACKPRESSURE DEVICE WITH LARGE BORE WASTE TUBING TO KEEP PRESSURE LOWER THAN **1000 PSI**.

12. Repeat [step 3](#) through [step 9](#) using **30% aqueous phosphoric acid**, except use a Flow Rate of **1.0 mL/min** for [step 7](#) through [step 9](#).

CAUTION: TO AVOID DAMAGE, DO NOT PLACE THE SEAL WASH LINE IN THIS SOLUTION. PLACE THE LINE IN MILLIQ WATER (OR EQUIVALENT) THROUGH [step 14](#).

13. Repeat [step 3](#) through [step 9](#) using **MilliQ water** (or equivalent), except use a Flow Rate of **1.0 mL/min** for [step 7](#) through [step 9](#). Flush until the pH is neutral (pH=7) before proceeding.
14. If applicable, reconnect the MS detector.
15. Repeat [step 3](#) through [step 9](#) using **100% methanol**, except use a Flow Rate of **1.0 mL/min** for [step 7](#) through [step 9](#).

