Cleaning Mass Spectrometer (MS) Source Parts Using the MS Cleaning Kit

cat.# 27194–27196

Restek's Mass Spectrometer (MS) Cleaning Kit includes the following commonly recommended supplies for cleaning the MS source on most instruments.

- Lint-free nylon gloves; 4 pairs (2 small, 2 large); cat.# 27196.
- Lint-free cotton cloth; 10 sheets (9" x 9" ea.); cat.# 27196.
- Micro Mesh 3600; 4 sheets (4" x 6" ea.); cat.# 27196.
- Low-speed rotary tool (included in cat.# 27194).
- Aluminum oxide cleaning powder, cat.# 22685.
- Cotton-tipped applicators.
- Large and small tweezers.
- Septum puller, cat.# 20117.

The following recommended procedures for cleaning the MS source are only guidelines—the manufacturer's recommendations should be followed at all times.

Disassembling the MS Source

1. Vent, then turn off the mass spectrometer following the instrument manufacturer's guidelines.
2. Allow the source to cool before disassembling.
3. Always wear nylon gloves when disassembling the MS source to prevent contamination of the source parts. Use one pair of nylon gloves for disassembly and cleaning of the source; then, use another pair for reassembly.
4. Place the source on the lint-free cloth and disassemble according to the manufacturer's instructions.

Cleaning the MS Source

1. Stainless-steel parts on the MS source can be cleaned using the rotary tool, the Micro Mesh 3600 abrasive cloth, or a combination of both.
2. Mix a liquid slurry of the aluminum oxide cleaning powder using methanol or water in a clean beaker.
3. Break off a cotton-tipped applicator approximately two inches from the cotton tip and insert it into the rotary tool as shown in Figure 1.
4. Apply a small portion of the aluminum oxide powder slurry onto the cotton tip of the applicator.
5. Using low speed, clean the stainless-steel parts by gently moving the tip of the tool in a circular motion across the parts. When cleaning with the rotary tool, be careful not to press too hard on the stainless-steel parts.
6. Alternately, the Micro Mesh 3600 abrasive cloth can be used to clean the MS parts instead of the rotary tool.
7. After cleaning, rinse the parts with water or methanol, then dry immediately.
8. Use a clean, cotton swab and solvent to remove any remaining residue; then, sonicate the parts in an appropriate solvent for approximately 5 minutes.
9. Using both a polar solvent (e.g., methanol) and a nonpolar solvent (e.g., methylene chloride) is recommended. Do not use a solvent that is a target compound for analysis.
10. After sonication, place the parts in a clean beaker, cover it with aluminum foil, and place it in a GC oven. Heat at 110° C for 15 minutes.
11. Cool the parts, then place them on a clean, lint-free cloth for reassembly.
12. Using a clean pair of nylon gloves, reassemble the source according to the manufacturer's instructions.

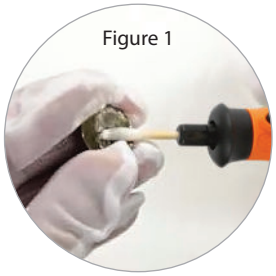
Figure 1

Questions about this or any other Restek product?
Contact us or your local Restek representative (www.restek.com/contact-us).

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