

# CarboPrep Plus SPE Cartridges

cat.# 25845



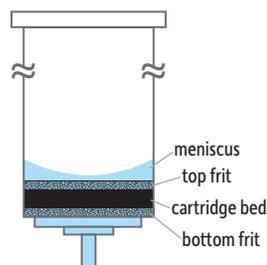
## Instructions for Organochlorine Pesticide Sample Extract Cleanup

**Caution:** For best results, it is important to work within the flow rates specified for each step. The application of vacuum may be necessary to establish the required flows throughout the process.

### Conditioning

1. Make sure the flow control valve on the vacuum manifold is open.
2. Place a waste collection vessel underneath the vacuum manifold outlet below the cartridge position.
3. Fit the cartridge tip securely in the vacuum manifold.
4. Add a 90:10 hexane:acetone mixture and fill to the top of the cartridge. Allow the solvent to enter the cartridge bed and, once it begins to flow out of the cartridge tip, close the flow control valve.
5. Allow the cartridge to soak for 5 minutes.
6. After the soak, open the flow control valve, establish a flow rate of 1-2 mL/min, and drain until the meniscus touches the top frit of the cartridge (Figure 1).
7. Discard the waste solvent from the conditioning step appropriately.

**Figure 1:** Correct Meniscus Position Relative to Top Frit



### Sample Loading

1. Confirm that the flow control valve is closed from the previous conditioning step.
2. Place a clean collection vessel (e.g., 10 mL volumetric flask or graduated glassware) under the vacuum manifold outlet for the cartridge.
3. Transfer 1 mL of sample extract (in hexane) into the cartridge.
4. Open the flow control valve and let the sample flow through the cartridge bed until the sample meniscus touches the top frit of the cartridge. The flow rate during sample loading is critical; load the sample at a flow rate of 1–2 mL/min.
5. Close the flow control valve when the sample meniscus touches the top frit of the cartridge.
6. Add 1 mL of 90:10 hexane:acetone to the cartridge.
7. Open the flow control valve and let the solvent flow through the cartridge at a flow rate of 1–2 mL/min until the solvent meniscus touches the top frit of the cartridge.
8. Close the flow control valve when the solvent meniscus touches the top frit of the cartridge.

### Sample Elution

1. Confirm that the flow control valve is closed from the previous sample loading step.
2. Measure 8 mL of 90:10 hexane:acetone and begin adding it to the cartridge. Open the flow control valve and monitor the solvent level as it flows through the cartridge, adding more solvent until the entire 8 mL volume has been added. The flow rate during sample elution is very important; it can be 1–5 mL/min and still maintain effective performance.
3. Once 8 mL has been collected from the sample elution step, close the flow control valve and remove the collection vessel from the manifold. The total volume in the collection vessel should be approximately 10 mL at the conclusion of this entire process (2 mL from the sample loading step and 8 mL from the sample elution step).
4. The sample is now ready for concentration, if necessary.

### Technical Tips

To ensure optimum performance:

- Cartridge conditioning should begin as soon as the cartridges are removed from either their original packaging or from a clean, closed storage container (if the cartridges are from a previously opened package).
- Flow rate can impact cleanup performance. A dropwise flow rate of approximately 1–2 mL/min for sample loading and 1–5 mL/min for sample elution is strongly recommended.
- Sample concentration is a process that can result in the loss of compounds if the concentration conditions are not properly matched to the application. If you are experiencing poor recoveries, review your concentration conditions to determine if adjustments are necessary.
- To avoid contamination, do not use any plastic-containing device for sample or solvent handling or transfer.
- Note that some quality assurance tests for other sorbents that are commonly used for organochlorine pesticide analysis sample preparation (e.g., retention of 2,4,5-trichlorophenol on Florisil) are not applicable to CarboPrep Plus sorbent because of media's different selectivity.

To ensure cartridge quality:

- Resprep CarboPrep Plus SPE cartridges are manufactured in a strictly controlled environment and housed in superior external contamination-resistant packaging. Once the original packaging has been opened, the cartridges should be used immediately; if this is not possible, we strongly recommend that any unused cartridges be stored in a clean, closed environment.

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