Air Sampling Bottle Instructions

Restek air sampling bottles are housed in specially designed, foam-filled protective boxes that provide direct access to the RAVEqc quick-connect valve without removing the bottle from the box. This allows the bottle to be protected from breakage while in use, even under rough field sampling and transportation conditions (Figure 1).

These air sampling bottle instructions are applicable to passive sampling (grab or time weighted); active sampling is not recommended. While the bottles may be used for ambient or indoor air sampling, they are disposable and thus are ideal for highly contaminated samples (e.g., soil gas sampling). After collection and analysis of field samples, the bottles may be either cleaned or disposed of according to lab requirements and local regulations. If discarding a bottle, note that the RAVEqc valve can be cleaned and reused on a new bottle.

About RAVEqc Valves

RAVEqc valves allow leak-tight connections to be easily made to sampling, analysis, and cleaning devices. The valves are mated pairs that open automatically when connected to allow flow between them and then close instantly when disconnected. When the valves are connected, the devices they are attached to can rotate freely. This is normal and does not indicate a problem with the connection or the seal. However, caution should be used because the male valve can be damaged if lateral force is applied to the valves during rotation. To seal a RAVEqc valve to a sampling bottle, simply hand tighten the bottle cap with the valve in place. For detailed valve operating instructions, see instruction sheet 500-19-002 on **www.restek.com**

Sample Collection

1. In the lab, use a female quick-connect valve to attach a vacuum source to the male quick-connect valve on the air sampling bottle. Evacuate the bottle to a pressure of 10–50 mTorr. The bottle is now ready for sampling.
2. Measure and record the initial vacuum in the bottle with a high-accuracy, calibrated gauge (Restek cat.# 24285 or 24268, or equivalent).
3. Attach a sampling line to the soil vapor sampler or other flow control device.
4. Connect the sampler to the bottle using a female quick-connect valve. Sampling will start as soon as the valve is engaged. Record the start time of the sampling event.
5. Collect the sample up to your desired pressure (e.g., -5" Hg).
6. When sampling is finished, remove the sampler by disengaging the quick-connect valve. Record the end time of the sampling event and the final pressure in the bottle.

Figure 1: Direct access to the quick-connect valve allows the air sampling bottle to remain in its protective packaging during use, preventing bottle breakage and sample loss.

Analysis

1. Verify the pressure in the air sampling bottle before analysis with a high-accuracy, calibrated gauge (Restek cat.# 24285 or 24268, or equivalent). The bottle may be pressurized with nitrogen or zero air prior to analysis to aid in transferring the sample to the preconcentrator. **Note: Do not exceed 10 psig when pressurizing the bottle.**
2. Attach the air sampling bottle to the instrument autosampler using a female quick-connect valve. The bottle should be kept in the box unless it must be removed in order to fit the autosampler (Figure 2).
3. The air sampling bottle is now ready for analysis.

Figure 2: During analysis, the bottle should remain in the protective box unless it needs to be removed for compatibility with some autosamplers.

For replacement bottles and product details, visit www.restek.com and enter "air sampling bottles" in the search.

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