



SanAir Technologies Laboratory Microbiology Sampling Protocol

For use with AllergencoD Cassettes

This is a general list of procedures to follow to ensure quality and accuracy of analysis. Please refer to the User Manual of the cassette and / or pump for a complete list of instructions.

Field Equipment: Calibrated Pump and Timer, Allergenco-D Cassettes, Permanent marker

- 1) Before testing, be sure the flow rate of your pump is calibrated to 15 L/min* using a rotameter (refer to owner’s manual of pump for recommended calibration methods). NOTE: Be sure each cassette is not expired and has been stored in an environment free of excessive dust, moisture, and extreme temperatures.
- 2) Be sure to have at least three extra cassettes for each job: one for outside sample(s), one for a non-complaint / non-suspect area (if possible), and one for a blank sample. As a general rule, use at least one air cassette for every 1,000 square feet of space to be tested. NOTE: The manufacturer, Environmental Monitoring Systems (EMS), recommends prior consultation with a Certified Industrial Hygienist or qualified Environmental Engineer for advice on a “sampling strategy for the environment being studied”.
- 3) Using a permanent marker, write a unique sample number or the location of sampling on the side of the cassette.
- 4) Once you are ready to sample a location, remove the seal labeled “Bottom” from the cassette (retain the seal in order to re-apply after completion of sampling).
- 5) Attach the calibrated pump to the bottom of the cassette using tubing. NOTE: EMS recommends vinyl/Tygon tubing and advises that the AllergencoD cassette is compatible with either ¼” or 3/8” ID tubing. EMS also recommends the use of a telescopic stand.
- 6) Remove and retain the other seal labeled “Top Inlet Quality Seal”.
- 7) Determine the appropriate sampling duration. (See Table 1 for EMS’s Recommended Sampling Durations)

Table 1: Recommended Sampling Durations for the AllergencoD Cassette

Site Location	Sampling Duration	Total Volume (L/min)
Outdoor sample	1 - 10 Minutes**	15 - 150 L/min.
Dust free environment (clean office)	5 – 8 Minutes	75 - 120 L/min.
Indoor environment – occupied space	3 – 5 Minutes	45 - 75 L/min.

Indoor environment – excessive dust	1 – 3 Minutes	15 – 45 L/min.
Inner wall sampling***	1 – 5 Minutes	15 – 75 L/min.

8) Turn the pump on and sample for the allotted time. NOTE: EMS recommends using a stop watch or timer.

9) Turn off the pump, remove the cassette from the tubing, and replace the protective labels over the inlet and outlet orifices of the cassette. NOTE: Do not pull the tubing off the cassette while the pump is on; this may cause a suction pull to crush the slide inside the cassette. NOTE: EMS recommends storing the cassettes at 50 – 80 °F.

10) Write the sample information on the SanAir Technologies Laboratory Chain-of-Custody:

Sample Number (i.e. a unique sample number or the serial number of each cassette)

Sample Identification (e.g. location of sampling, unique sample identification number, cassette serial number)

Sample Type (AC)

Analysis Type (A1 or A2)

Turn-Around-Time (3, 6, 24, or 48 hours)

Total Volume: Total Volume in Liters is equal to the flow rate of your pump (e.g. 15 L/min) multiplied by the duration of sampling (e.g. 5 minutes). For example, an air cassette sample that was pulled for 5 minutes on a pump calibrated to 15 L/min would have a total volume of 75 L/min ($15 \text{ L/min} \times 5 \text{ min} = 75 \text{ L/min}$)

Time (Start – Stop): In order to keep track of the duration of sampling, the start and stop times of sampling (or the total time for sampling) may be noted. NOTE: If the start and stop times are noted on the COC, but the Total Volume is left blank, then the flow rate of the pump must be noted in Special Instructions so that the Total Volume can be calculated.

11) Sample the remaining sites, following steps 3 - 10 for each cassette.

12) Make sure the package used for shipping is well-cushioned to avoid breakage during shipping.

* EMS states the AllergencoD is designed to operate at a flow rate of 15 L/min. Depending on the environment being studied, the AllergencoD cassette may undergo a flow rate ranging from 5 to 20 L/min for durations ranging from 1 to 20 minutes.

** Lower sampling durations may be ideal in spring and summer months.



*** EMS advises that an optional wall sampling adapter may be used. See Tri-Fold Brochure or User Manual for instructions.

References

Analytical Method for Qualitative Microbial Analysis of AllergencoD Bioaerosol Sampling Impactors (EMS Standard Operating Procedure, Rev. 2005, Tucker)

EMS Tri-Fold Brochure for the AllergencoD Disposable Air Sampling Cassette

For more information, consult EMS's website and other reference materials, including their IAQ "Everything Sheet" and References – 20080908.

AllergencoD™ is a registered trademark of Environmental Monitoring Systems. For more information contact EMS at www.emssales.net