



Microbiology Sampling Protocol

For use with Micro-5 and MoldSNAP Cassettes

This is a general list of procedures to follow in order 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, Micro-5 or MoldSNAP Cassettes,
Permanent marker

1) Before testing, be sure the flow rate of your pump is calibrated to 5 L/min* using a rotameter (refer to owner's manual of pump for any special 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.

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, remove the pin from the bottom of the cassette; then, connect the cassette to the sampling pump using flexible tubing**, or insert the cassette into the mini-pump machine (refer to user manual). Remove and retain the seal or cap from the top of the cassette.

5) Determine the appropriate sampling duration.*** (See Table 1 for EMS's Recommended Sampling Intervals for the Micro-5 Cassette.)

Table 1: Recommended Sampling Intervals for the Micro-5 Cassette

Site Location	Sampling Duration (Minutes)	Total Volume
Outdoors and Clean Indoor Environments	8.0 - 10.0	40 - 50 L/min.
Indoor (Normal Activity)	5.0	25 L/min.
Indoor (Heavy Particulates)	1.0 - 3.0	5 - 15 L/min.



- 6) Turn the pump on and sample for the allotted time.*****
- 7) Turn off the pump, remove the cassette from the tubing or the bio-pump, and replace the pin and seal/cap on 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.
- 8) 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, 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. 5 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 5 L/min would have a total volume of 25 L/min ($5 \text{ L/min} \times 5 \text{ min} = 25 \text{ L/min}$)
 - 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.
- 9) Sample the remaining sites, following steps 3 - 8 for each cassette.
- 10) Make sure the package used for shipping is well cushioned to avoid breakage.

* Environmental Monitoring Systems (EMS) and Zefon recommend the flow rate always be set at 5 L/min for optimal collection efficiency for Micro-5 and MoldSNAP cassettes, respectively.

** EMS recommends connecting 5 feet or less of tubing for conventional high volume pumps and 1 inch of tubing, if any, for low volume pumps.

*** Zefon recommends a 5-minute sampling duration for MoldSNAP cassettes.

**** EMS recommends sampling at “breathing zone height”.

References



Micro-5 Air Sampling Cassette, Informational Tri-Fold Brochure, Environmental Monitoring Services

MoldSNAP Sampler, Zefon International, Online Store Product Description,
<http://www.zefon.com/store/moldsnap-sampler.html>

Micro-5™ is a registered trademark of Environmental Monitoring Systems. For more information contact EMS at
www.emssales.net.

MoldSNAP™ is a registered trademark of Zefon International. For more information contact Zefon at www.zefon.com