

# Spore Trap Collection/Shipping Guidelines



**Method:** Quantitation and identification of impacted particles on a slide/cassette, including non-culturable mold spores, hyphal fragments, pollen, skin cells, and insect parts. The particle count is converted to a concentration based on air sample volume and expressed as spores per cubic meter (spores/m<sup>3</sup>).

## Collection:

The Zefon Bio-Pump is available for rent from U.S. Micro-Solutions, call 724-853-4047.

1. Calibrate and verify pump flow rate prior to sampling.
  - ▲ *USMS provides calibrated pumps to customers. Customers should verify the calibration in the field using the supplied airflow meter.*
2. Determine sampling sites.
  - ▲ *Collect an indoor sample from an unaffected area to serve as a control.*
  - ▲ *Collect a representative outdoor sample to provide a reference for determining whether certain fungi are being amplified in the indoor environment.*
  - ▲ *Submit a blank, unexposed spore trap cassette with each sampling event to serve as a negative control.*
3. Place the pump in the desired location.
4. Label the spore trap cassette with sample number.
  - ▲ *Do not use damaged or expired cassettes.*
  - ▲ *Avoid writing over the lot number and expiration date on the cassette.*
5. Remove the label from the outlet port of the cassette and place it on the side of the pump.
  - ▲ *The labels on the outlet and intake ports will be used later to seal the cassette.*
6. Place the cassette on the rubber grommet on top of the pump until it fits snugly.
7. Immediately before sampling, remove the spore trap label from the inlet of the cassette and place it on the side of the pump.
8. Examples of recommended sampling times:
  - ▲ *Sampling volume (15 L/min); 75 total liters is recommended as a benchmark for representative sample volume.*
  - ▲ *The flow rate recommended for total spore sampling is 15L/min for 3-5 minutes with Air-O-Cell, VersaTrap, and Allergenco-D cassettes, and 5L/min for 5 minutes with Micro-5 cassettes. Longer sampling times are used for clean rooms, hospitals, and remediated areas.*
  - ▲ *In dusty or heavily polluted areas, particle overloading may occur, and sampling times/volume should be adjusted accordingly.*

LOCATION		SAMPLING TIME
Outdoor (depending on season)		2-5 minutes
Indoor	Clean office (no visible dust)	5 minutes
	High activity personnel	2-5 minutes
	Drywall renovation or industrial dust	1 minute
	Visible dust present	30 seconds

1. Turn on the pump.
  - ▲ *The impacted area (trace) of the spore trap should appear opaque, not white, when an appropriate amount of sample has been collected.*
  - ▲ *If the trace appears white, repeat the sample collection for a shorter amount of time.*
2. When sampling is completed, replace the label on the spore trap cassette inlet port.
3. Remove the cassette from the pump by gently pulling upward.
4. Replace the label on the cassette outlet.

## Shipping:

1. Clearly label each sample with a Sample Number and complete the Chain of Custody (COC).
2. Place the cassettes in a Ziploc bag in a box with sufficient packing material to prevent damage and ship to the laboratory with the completed COC form.
  - ▲ *Keep spore trap cassettes at room temperature to prevent melting of the gel layer.*
3. Ship samples at ambient temperature Monday through Friday. Shipments on Fridays must be sent via Priority Overnight Saturday Delivery.