



ESIS, Inc. – Global Risk Control Services
Environmental Health Laboratory
Bio-aerosol Spore Count Analysis

The Air-O-Cell™ Cassette is a simple and easy to use sampler for the collection of a wide range of viable and non-viable airborne aerosols. The rapid collection design is based on the principle of inertial impaction. As air is drawn into the cassette, particles in the air become impacted onto a sticky glass slide, which is microscopically analyzed.



The recommended flow rate for the Air-O-Cell Cassette is 15 L/min, for one to 10 minutes. The following table illustrates recommended sampling times for different environments:

Recommended Sampling Intervals

Typical Environmental Conditions	Sampling Time for Flow Rate of 15 L/min
“Clean” office or outdoors (no visible dust)	10 min
Indoor, high activity	5 min
Indoor, drywall renovation or industrial dust	1 min
Indoor, visible dust	0.5 min

The collection efficiency of the Air-O-Cell Cassette is 85% for 3.0µm particles, and greater than 95% efficiency for particles ranging in size from 15 to 80µm.

When sampling for bio-aerosol contaminants, it is recommended that indoor and outdoor samples be submitted, including samples from both problem and non-problem areas. A comparison of the number and type of spores present in multiple locations may provide information about the source of spores in the suspected problem area.

Air-O-Cell Vs. Anderson Sampler

	Air-O-Cell	Anderson Stage Impactor
Organisms Collected	Viable and Non-Viable	Viable
Turn-Around-Time	Average of 3 days	Average of 2 weeks
Stachybotrys	Able to collect and count spores	Does not grow on most culturable media
Speciation	Cannot speciate	Able to differentiate between <i>Penicillium</i> and <i>Aspergillus</i> type organisms

ESIS Environmental Health Laboratory provides the Air-O-Cell Cassettes for spore count analysis. *We also perform spore identification on bulk and tape lift samples.*

For more information or to obtain media, contact Jim Kenny at:
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