



**U.S. Micro-Solutions, Inc. \* 302 Unity Plaza \* Latrobe, PA 15650**  
 Phone: (724) 853-4047 Fax: (724) 853-4049 AIHA-LAP, LLC EMLAP # 103009  
[www.usmslab.com](http://www.usmslab.com)

<b>Customer Name:</b>	<b>U.S. Micro-Solutions, Inc.</b>	<b>Sample Date:</b>	<b>April 26, 2021</b>
<b>Customer Address:</b>	<b>302 Unity Plaza Latrobe, PA 15650</b>	<b>Date Received:</b>	<b>April 26, 2021</b>
		<b>Date of Report:</b>	<b>April 27, 2021</b>
<b>Customer Phone:</b>	<b>(724) 853-4047</b>	<b>Fax:</b>	<b>(724) 853-4049</b>
<b>PO Number:</b>		<b>Attention:</b>	
<b>Project Name/Number:</b>	<b>Sample Report</b>		

**Customer sample numbers below are uniquely identified by prefixing Laboratory # 12345-21**

Airborne Spore Trap Analysis - AllergencoD												
Analytical Method: MIC 01												
Total Volume (L)	75				75				75			
Sample Number	08				09				10			
Location:	Lab - Set Up Area				Lab - USP Area				Lab - IEQ Front Area			
Particle ID	Raw ct.	AS	Spores/m <sup>3</sup>	%	Raw ct.	AS	Spores/m <sup>3</sup>	%	Raw ct.	AS	Spores/m <sup>3</sup>	%
Alternaria												
Ascospores												
Aspergillus/Penicillium-like												
Basidiospores	7	13	91	70%								
Bipolaris/Drechslera												
Cercospora									12	13	156	71%
Chaetomium												
Cladosporium												
Curvularia					3	13	39	100%				
Epicoccum												
Helicomycetes												
Nigrospora												
Oidium												
Pithomyces/Ulocladium									5	13	65	29%
Polythrincium												
Rusts	3	13	39	30%								
Smuts/ Myxomycetes												
Stachybotrys												
Torula												
Trichoderma												
Unidentified dematiaceous conidia												
Unidentified hyaline conidia												
Total Mold (Spores/m <sup>3</sup> of air)	10		130		3		39		17		221	
Pollen	5	13	65		0	13	< 13		0	13	< 13	
Hyphal Fragments												
Insect Fragments									2	13	26	
Plant Fragments												
Skin Cell Fragments			1				3***				1	
Debris			3***				1				1	
Analyst Initials			HC				HC				HC	
Date Analyzed			04/29/21				04/29/21				04/29/21	
Cassette Serial # / Exp Date:			10/2021				10/2021				10/2021	

**Sample Report**

Entire trace analyzed. Samples are in good condition unless otherwise noted. Results relate only to the samples tested as received. Results are reported as calculated. For biological data, the first and/or second digit should be considered significant. Total percentage may not equal 100% due to rounding. Percentages reported as 0% are greater than 0 and less than 0.5%. The *Aspergillus/Penicillium*-like category cannot be differentiated by non-viable sampling methods.

AS=Analytical Sensitivity (spores/m<sup>3</sup>); Blank Lines = None Detected

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\*\*\* A debris rating of 3 or greater indicates that the accuracy of the analysis is likely affected.

\*\*\*A skin cell rating of 3 or greater indicates that the accuracy of the analysis is likely affected.

Technical Manager: Deanna L. Kiska  
 Deanna L. Kiska, Ph.D.

## SPORE TRAP INTERPRETATION TIPS

Contains opinions and interpretations

Currently there are no numeric standards for indoor airborne or surface microbial contamination. Suggested guidelines are constantly being reviewed and updated as more information is collected.

Some common denominators should be considered when interpreting results:

1. Comparison of indoor/outdoor concentration ratios.
2. Complaint vs. non-complaint areas or affected vs. non-affected areas.
3. Consider air exchange rates and activity levels in a building structure, weather, and season of the year.
4. Rank order assessment and concentration (e.g., spores/m<sup>3</sup> of air) of the fungi.
5. Predominant fungal genera: Are there water indicator microorganisms present, such as but not limited to: *Chaetomium*, *Stachybotrys*, *Trichoderma*, and *Scopulariopsis*.
6. Generally fungal counts indoors should be lower than outdoor counts and the types of fungi found indoors should be similar to outdoors.
7. There is always a potential bias from infiltration of outdoor air, poor housekeeping, excessive indoor relative humidity, or potential contamination sources (e.g. water intrusion through a basement wall) that may negatively influence post remedial verification (PRV) or clearance levels.
8. The investigator should look for various patterns among the indoor types of molds detected:
  - a. Increased levels of primary (1st) colonizers in damp or moisture intrusion areas of homes or commercial buildings: ***Aspergillus/Penicillium*** or ***Cladosporium*** are usually noted.
  - b. ***Chaetomium*** or ***Stachybotrys*** are tertiary (3rd) colonizers of indoor materials and are usually associated with chronic long-standing water/moisture issues in a building.
  - c. The presence of **hyphal fragments** or **fruiting structures** noted on spore trap samples usually indicates amplification (growth) of fungi on building substrates.
  - d. **Ascospores** and **basidiospores** noted on indoor spore trap samples most often represent the entrance of inadequately filtered outdoor air. During inclement weather, remember to note time, temperature, and season. Most indoor materials will not support the growth of these fungi.
9. When unidentified **hyaline** (clear) or **dematiaceous** (dark-pigmented) conidia are noted on a spore trap sample, it indicates that no particular fungus can be identified. These fungal conidia may represent such yeast-like fungi as *Aureobasidium*, *Sporidiobolus*, unidentifiable *Acremonium* species, Basidiomycetes (basidiospores), and Ascomycetes (ascospores).
10. Keep in mind when interpreting spore trap sample reports, that indoor levels may be higher than corresponding outdoor levels (winter time in the northern U.S.) with a predominance of *Aspergillus/Penicillium* or *Cladosporium* conidia with no significant amplification of any molds.

## SPORE TRAP GUIDELINES

DEBRIS RATING		
DEBRIS RATING	Debris Load per high power field (600 X)	SIGNIFICANCE
0	A visible trace, including particulates and debris, is not observed.	Indicates the sample is a blank, the area is exceptionally clean, or improper sampling occurred.
1	<5%	Minimal amount of debris is observed.
2	5-25%	Low amount of debris is observed.
3	25-75%	Moderate amount of debris is observed, the accuracy of the analysis is likely affected.
4	75-90%	High amount of debris is observed, the accuracy of the analysis is likely affected.
5 See Relative Abundance chart below	>90%	Periphery of trace analyzed. Relative amounts of conidia/hyphal fragments noted.

RELATIVE ABUNDANCE of FUNGAL PARTICLES (hyphal fragments, spores)	
RATING	Fungal Particle Load per high power field (600 X)
Rare	<5%
Few	5-25%
Moderate	25-75%
Many	75-90%
Numerous	>90%

SKIN CELL RATING	
SKIN CELL RATING	Skin Cell Load per high power field (600 X)
0	No skin cells present
1	<5%
2	5-25%
3	25-75%
4	75-90%
5	>90%