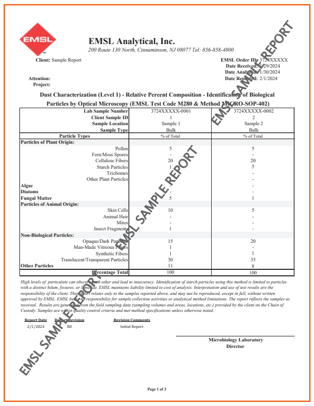
Dust Characterization

Dust Characterization analyzes both microbial and non-microbial particles found in dust samples, including skin cells, fibers, pollen, insect debris, and other particulates.

This analysis is often performed alongside fungal identification analyses using Air O Cell® cassettes or other sampling media to help identify potential allergens. It serves as an ideal first step during initial site surveys when Indoor Air Quality (IAQ) concerns are present, particularly in situations where mold levels are low but occupants continue to experience symptoms.

Results may be reported qualitatively or quantitatively, depending on project needs.



EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077 Tel: 856-858-4800

Client: Sample Report
EMSL Order ID: 3724XXXXX
Date Received: 1/29/2024
Date Analyzed: 1/30/2024
Date Reported: 2/1/2024

Attention:
Project:

Dust Characterization (Level 1) - Relative Percent Composition - Identification of Biological Particles by Optical Microscopy (EMSL Test Code M280 & Method MICRO-SOP-402)

Lab Sample Number	3724XXXXX-0001	3724XXXXX-0002
Client Sample ID	1	2
Sample Location	Sample 1	Sample 2
Sample Type	Bulk	Bulk
Particle Types	% of Total	% of Total
Particles of Plant Origin:		
Pollen	5	5
Fern/Moss Spores	-	-
Cellulose Fibers	20	20
Starch Particles	1	5
Trichomes	[illegible]	-
Other Plant Particles	[illegible]	-
Algae	[illegible]	-
Diatoms	-	-
Fungal Matter	5	1
Particles of Animal Origin:		
Skin Cells	10	5
Animal Hair	-	-
Mites	-	-
Insect Fragments	1	-
Non-Biological Particles:		
Opaque/Dark Particles	15	20
Man-Made Vitreous Fibers	1	-
Synthetic Fibers	1	1
Translucent/Transparent Particles	30	35
Other Particles	11	8
Percentage Total	100	100

High levels of particulate can obscure each other and lead to inaccuracy. Identification of starch particles using this method is limited to particles with a distinct hilum, fissures, or lamellae. EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted.

Report Date	Report Revision	Revision Comments
2/1/2024	R0	Initial Report

Microbiology Laboratory
Director

Page 1 of 3

EMSL SAMPLE REPORT

Key Notes

Identifies and characterizes particulates within a sample
Useful for evaluating potential non-microbial IAQ issues
Supports investigations where irritants are suspected but mold levels are minimal

Accepted Media

The Microbiology Division accepts the following media for Dust Characterization analysis:
Spore traps (EMSL Product IDs: Air-O-Cell®: 8715301B; Allergenco-D :8715307B; Micro 5: 8715306B)
Tape lifts (EMSL Product ID: 8708315)
Swabs (EMSL Product ID: 8708301)
Bulk materials (e.g., sheetrock, carpet)
Amorphous bulk materials (e.g., house dust)
Liquid samples

Methodology

Particle types are identified using light microscopy and Phase Contrast Microscopy (PCM).

More advanced analytical options are available through our Materials Science Division, including ash analysis, char identification, and comprehensive particle identification, if required.

Microbiology Related Tests - Dust Characterization (Air and Surface Samples)

M280- Dust Characterization (Level 1) (Relative Percent Composition)
M280A- ADD-ON Dust Characterization (Level 1)
M281- Dust Characterization (Level 2) (Quantitative)
M281A- ADD-ON Dust Characterization (Level 2)

© Copyright 2026 EMSL Analytical, Inc.