



EMSL ANALYTICAL, INC.

EMSL Analytical, Inc. is a full service analytical testing laboratory, which has been providing materials, forensic, industrial hygiene, indoor air quality, environmental, and chemical analysis services since 1981. Our experienced staff of PhD scientists, technical professionals and our continuously expanding roster of analytical instrumentation are increasingly called upon by clients to solve problems, answer questions, and respond to a wide spectrum of challenges from their customers, partners, and internal operations.

Our project scientists can design and implement a testing program that accomplishes your specific goals. We often function as “virtual resources” to our clients, complementing their own capabilities.

In addition, we have successfully provided failure analysis and comparative product performance evaluations for a wide range of clients. Our technologists work closely with your people to devise efficient and economic test strategies, methods, and matrices.

Contact the Materials Science Division at EMSL Analytical to turn our capabilities into effective solutions for your business.



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LOCATIONS



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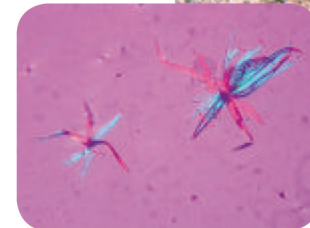
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Materials Science & Forensics Division

Sampling & Service Information for
Common Particulate in Airborne,
Settled Dust and Bulk Materials



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Particle Analysis in Dust and Air Samples:

Particle Identification (CPID): (Common)

CPID is useful whenever large particles consisting of common indoor contaminants are present, for example, “dust bunnies” under the couch or fibrous particulate collecting on desks. The standard analytes included in the CPID are:

- ◆ Insulation: fibrous glass & mineral wool
- ◆ Cellulose: cotton fibers, plant matter, paper fiber & starches
- ◆ Synthetic fibers such as polyester from clothing and nylon from rugs
- ◆ Both human and animal hair and skin detritus
- ◆ Biologicals such as mold, pollen, diatoms & algae
- ◆ Insect fragments, moth scales, dust mites and spider silk
- ◆ Minerals are limited to asbestos, quartz (sand) and calcite

Results are expressed in particles per cubic meter for air samples and percent for dust and bulk, unless specified. We can report the results in other formats to meet your needs; just describe them on the chain of custody.

Sampling is best achieved by grab-bag or microvacuum for dust and 0.4um PC or 0.45um MCE cassette for air. Air-O-Cell cassettes can also be used; however, differentiation of the types of insulation fibers, synthetic fibers and the types of cellulose are limited. Whenever performing air sampling it is important to collect at least one dust sample from each area. Many types of particles have a rapid settling rate and can be missed by air sampling alone.

*Laboratories providing Common Particle ID:
San Leandro, CA, Minneapolis, MN, Orlando, FL,
Westmont, NJ*

Air Sampling Supplies:

CPID:

- ◆ 0.45um mixed cellulose ester (MCE) cassettes will provide the best results. These commonly used filter media allow for accurate identification and quantitation of mold, pollen, many synthetics and MMVFs as well as skin fragments, insect fragments and many minerals. A benefit of MCE filters is that the sample can continue on to other analysis if necessary such as XRD or Full Particle Identification (FPID). Something not possible with Air-O-Cell style samplers.
- ◆ Air-O-Cell cassettes may limit the type of particles that can be identified due to the gelatin collection media. This type of sampling media engulfs the particles in a gel that is excellent for mold and pollen analysis. However, it greatly hinders synthetic fiber, cellulosic fiber, and mineral identification. In addition these samples can not be submitted for accurate FPID if additional analysis is needed.

Dust & Bulk Sampling Supplies:

- ◆ Grab-Bags and Micro-vacuuming are the best techniques for dust sampling.
- ◆ 1x1” Alcohol Wipes are the best “wipe” media when a wipe is necessary. However, some fine particles may be lost in the fabric/paper or dissolved by the alcohol.
- ◆ Forensic Adhesive Lifts are the best “tape-like” media when an adhesive lift is necessary. However, particles smaller than 10 microns may not be identifiable. Avoid tape which has heavy adhesives, especially packing and duct tape.

Standard List of Analytes: Separated for Dust or MCE filters and Air-O-Cell type samplers

	Samples as Dust and MCE Filtered Air	Samples as Air-O-Cell
Asbestos:	Type ID'd	Asbestos
MMVFs:	Fibrous Glass Mineral Wool Ceramic Fiber	Total MMVFs
Glass:	Fragments	Fragments
Cellulose:	Processed Natural Wood Paper Pulp Starch	Processed Natural Wood Paper Pulp Starch
Synthetics:	Polyester Nylon	Total Synthetic Fibers
Hair:	Human Animal	Human Animal
Biological:	Skin Fragments Insect Fragments Dust Mites Spider Silk Mold Pollen	Skin Fragments Insect Fragments Dust Mites Mold Pollen
Mineral:	Quartz (Sand) Calcite	Quartz (Sand) Calcite

If you have a specific particle of interest please feel free to call and discuss expanding the analysis.