



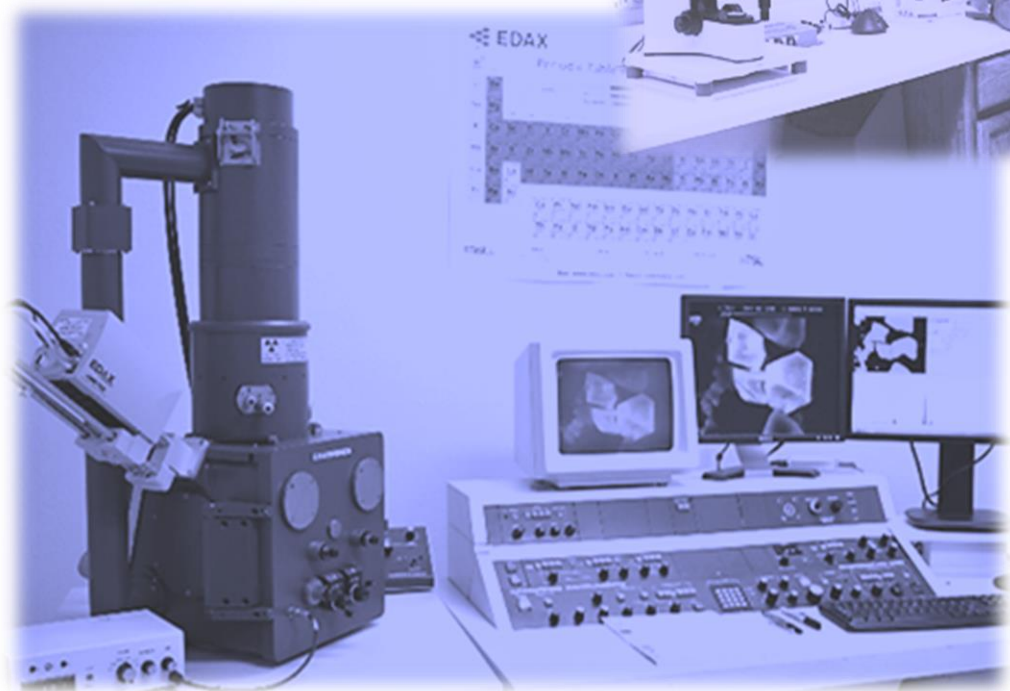
# **ANALYTICAL METHOD SELECTION GUIDE**

*Specializing in Indoor Air Quality Dust Analysis*  
*Services offered in both California and Michigan Laboratories*

The following air sampling method selection guide is specifically designed to provide both “screening” and comprehensive analyses using the full range of Optical Microscopy and automated Scanning Electron Microscopy / X-ray analysis methods. “Level 1” tests have been designed to provide the initial analyses required to address the full range of aerosol and bioaerosol contamination found in both airborne and settled dust samples. LEVEL 2 tests (using Automated SEM) can provide comprehensive chemistry, size analysis, and source identification critical in locating and solving the origin of IAQ complaints associated with “dust”.

## **OPTICAL & ELECTRON MICROSCOPY SERVICES:**

- *Indoor air quality dust analysis*
- *Mold, bioaerosols, & aero-allergens*
- *Fire analysis (structure & wildfire)*
- *Materials and product identification*
- *Automated SEM/X-ray dust analysis*



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LEVEL 1 - RESIDENTIAL / COMMERCIAL IAQ - OPTICAL MICROSCOPY METHODS					
METHOD CODE	SAMPLE TYPE	APPLICATION	DESCRIPTION	TAT	PRICE
MOLD-A01	Airborne mold - Air-O-Cell /MCE Filter	Airborne analysis of total mold spores -	Analysis of Air-O-Cell or MCE filter samples for airborne mold spore concentrations. A panel of over 20 common genera with the results reported as spore cts/m <sup>3</sup>	2-5 days	\$50
MOLD-A02	Airborne mold - Air-O-Cell / MCE Filter	Airborne analysis of total mold spores & pollen -	Analysis of Air-O-Cell or filter samples for airborne mold spores (as described above) and pollen concentrations. Results are reported as spore counts/m <sup>3</sup> .	2-5 days	\$55
MOLD-B01	Bulk mold - Bulk material sample	Qualitative analysis of suspect mold growth -	Analysis of suspect stains / mold growth. Multiple sample preps required. Results reported as low, moderate, high. Presence of "growth" or "settling" is reported.	2-5 days	\$50
MOLD-D01	Surface mold - tape lift, swab	Qualitative analysis of suspect mold growth -	Analysis of suspect stains / mold growth. Results reported as N.D, Low, Moderate, High. Presence of "growth" or "settling" is reported.	2-5 days	\$30
MOLD-D02	Surface mold - tape lift	Quantitative analysis of settled mold spores - Determine potential surface contamination.	Analysis of mold spore concentrations only. Results reported as spore counts/mm <sup>2</sup> of surface area. An interpretation of whether "growth" or "settling" is present is provided.	2-5 days	\$45
DUST-A01	Airborne dust - Air-O-Cell / MCE Filter	Airborne analysis of common biological & inorganic dust constituents	Analysis of dust collected on Air-O-Cell or MCE filter samples for biological & inorganic constituents (mold spores, pollen, insect parts, skin cells, fibers, mineral dust, and miscellaneous opaque particles). Results are reported as airborne cts/m <sup>3</sup> .	2-5 days	\$75
DUST-D01	Surface dust - tape lift	Qualitative analysis of surface dust - Used to determine contamination per unit area.	Dust analysis collected on tape lift samples for biological & inorganic constituents (mold spores, pollen, insect parts, skin cells, fibers, mineral dust, and misc. opaque particles). Results primarily used to determine settled contamination and reported as cts/mm <sup>2</sup> .	2-5 days	\$75
DUST-D02	Surface dust - tape lift / bulk / micro-vac	Quantitative percent analysis of surface dust - Ratio percent analysis between the surface dust constituents in sample.	Analysis of dust collected on tape lift samples for biological and inorganic constituents (mold spores, pollen, insect parts, skin cells, fibers, mineral dust, and misc. opaque particles). Results reported as a numerical percentage between particle categories.	2-5 days	\$75
FIRE-A01	Airborne fire residue - Air-O-Cell / MCE Filter	Quantitative analysis of airborne fire residue - Air-O-Cell or MCE filter sample	Analysis of fire residue particles (soot, char, and ash). Biological and inorganic constituents are counted and reported as a numerical ratio to the fire residue. PLM and Reflected Light Microscopy are utilized. Airborne results are reported as counts/m <sup>3</sup> .	3-5 days	\$85
FIRE-D01, D02	Surface fire residue - Bulk sample Tape lift	Quantitative analysis of surface fire residue - bulk dust analysis (FIRE-D01) surface tape lift (FIRE-D02)	Analysis of fire residue (soot, char, and ash). Biological and inorganic constituents are counted and reported as a numerical ratio to the fire residue particles. PLM and Reflected Light Microscopy are utilized. Results reported as a numerical percentage.	3-5 days Bulk & tape lift	\$80
PHOTO-01	Dust & fire residue - Photo report	Provides additional photographic documentation of any air or dust sample report	Provides 2 micrographs for each sample in a separate photo report, or within the quantitative dust or fire residue reports when requested. Cost quoted is per sample.	5 days	\$20
* ASBESTOS-B01	Bulk asbestos	PLM Analysis of bulk asbestos - sample analyzed according to NVLAP Guidelines	Analysis of bulk material samples or settled debris for the qualitative percentage of asbestos reported as a numerical percentage ratio. Performed on a research basis.	2-5 days	\$40
* ASBESTOS-A01	Airborne asbestos MCE Filter	PCM Analysis of bulk asbestos - sample according to NIOSH Method 7400	Analysis of airborne fiber concentrations (fibers/cc) according to NIOSH 7400 Guidelines. Analysis results reported as fibers/cc.	2-5 days	\$25
SWAB - BAC01	Swab - Bacteria	Swab sample for Total coliform and E. coli - MUG analysis	Results from swab samples for sewage cleanup are reported as Positive or Negative for both Total coliform and E. coli bacteria.	2-5 days	\$65
DUST - pH01	Bulk Dust - fire residue	Chemical pH analysis of bulk dust samples - Specific to suspect wildfire contamination	Analysis of Wildfire dust samples collected as bulk samples or Micro-Vac dust cassette samples. Results are reports as a hydrogen ion concentration (pH) from 1-14.	2-5 days	\$30

\* Asbestos analysis provided for "Non-AHERA" or "non-regulated" analysis only

Environmental Analysis Associates, Inc.

LEVEL 1 Analysis methods are designed specifically for initial indoor air quality investigations.

LEVEL 2 - Analysis methods use SEM / X-ray chemical analysis methods to resolve complex problems that cannot be directly solved by the Level 1 methods.

The automated SEM analysis procedures are not offered anywhere else in the country (see next page)



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## EAA IAQ ANALYSIS METHOD APPLICATION GUIDE

LEVEL 2 - COMMERCIAL IAQ / RESEARCH ELECTRON MICROSCOPY METHODS					
METHOD CODE	SAMPLE TYPE	APPLICATION	DESCRIPTION	TAT	PRICE
<b>SEM-A01 (automated)</b>	Air Sample - Air-O-Cell CSI / PC filter	Particle chemistry, classification ID, size distribution, and source identification of particles collected on air filter or Air-O-Cell CSI cassettes	Results provide comprehensive analysis of the size/mass distribution, chemistry, and identification of airborne dust particles. Results are used to determine the origin or source of the dust. ~200 particles per sample are analyzed. Airborne concentrations (cts/m <sup>3</sup> ), in addition to numerical and mass ratios, are provided.	5 days	\$300
<b>SEM-D01</b>	Bulk dust / tape lift	Bulk Chemical analysis (X-ray) of uniform material fragments or debris	Results provide bulk sample chemistry and micrographs from unknown bulk and dust samples.	5 days	\$150
<b>SEM-D02 (automated)</b>	Bulk dust / tape lift	Chemical (X-ray), size distribution, and source identification of settled dust or debris samples	Results provide comprehensive analysis of the size/mass distribution, chemistry, and identification of dust constituents collected from surface dust samples. Results are used to determine the origin or source of the dust. Approximately 200 particles per sample are analyzed. Larger sample sizes (500 particles) can be analyzed for additional cost of \$100.	5 days	\$300
<b>SEM-A03F (automated)</b>	Air Sample - Air-O-Cell CSI / PC filter	Fire chemistry analysis - Particle ID, size distribution, and source identification of dust collected on air filter or Air-O-Cell CSI cassettes	Results provide comprehensive analysis of the size/mass distribution, chemistry, & classification of wildfire indicator Calcium oxide/oxalate and residual alkali salt particles common in wildfire ash. Approximately 200 particles per sample are analyzed. Airborne concentration (cts/m <sup>3</sup> ) in addition to numerical and mass percent ratios are provided.	5 days	\$350
<b>SEM-D03F (automated)</b>	Bulk dust/tape lift	Fire chemistry analysis - Particle ID, size distribution, and source identification of dust collected on air filter or Air-O-Cell CSI cassettes	Results provide comprehensive analysis of the size/mass distribution, chemistry, & classification of wildfire indicator Calcium oxide/oxalate and residual alkali salt particles common in wildfire ash. Up to 200 particles per sample are analyzed. Surface concentrations (cts/mm <sup>2</sup> ) in addition to numerical and mass percent ratios are provided. Larger sample sizes (500 particles) can be analyzed for additional cost of \$100.	5 days	\$350
<b>SEM-W01 (automated)</b>	Water	Water sample - Chemistry, particle ID, size distribution, and source identification of particles in water samples	Results provide comprehensive analysis of the size/mass distribution, chemistry, and particle identification of dust particles. Up to 200 particles per sample are analyzed. Water concentrations (cts/liter) in addition to numerical and mass ratios are provided.	5-7 days	\$400
<b>SEM-ASB-01</b>	Bulk sample / settled dust	Analysis of settled dust samples for the presence of asbestos fibers	SEM analysis of bulk construction material samples or settled dust for the qualitative presence of small asbestos fibers not potential found by PLM analysis. Results reported as qualitative ratio percentages.	5 days	\$200
<b>RES-01</b>	Research / investigation	Research / investigation using Optical Microscopy or Forensic investigation methods	Investigation requiring non-standard analysis procedures such as product comparison or special investigation requirements. <i>A quotation for specific services can be provided.</i>	7 days +	\$250 / hr
<b>RES-02</b>	Research / investigation	Research / investigation using Scanning Electron Microscopy / X-ray analysis	Investigation requiring non-standard analysis procedures such as product comparison or special investigation requirements. <i>A quotation for specific services can be provided.</i>	7 days +	\$350 / hr

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**LEVEL 2 - Analysis methods use SEM / X-ray chemical analysis methods to resolve complex problems that cannot be directly solved by the Level 1 methods.**

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