



## Asbestos “Everything Sheet” and References – 20080908

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\*Additions or Corrections Solicited! Send these via email to Dr. James R. Tucker. Email: jim@emssales.net

### ASBESTOS LIMITS

Asbestos	0.01 fibers/cm <sup>3</sup> OSHA Clearance
	0.1 fibers/cm <sup>3</sup> OSHA PEL
	1.0 fibers/cm <sup>3</sup> OSHA 30 Minute Excursion Limit
ACM	> 1.0% Asbestos

### EPA WORKER LIMITATIONS

#### AHERA Four Day Worker

- >260 ln.<sup>2</sup>, 160 sq.<sup>2</sup>, or 35 cu.<sup>2</sup>
- Supervisor required

#### AHERA Two Day O&M Worker

- 3 sq. or lin. feet or less of friable ACBM

#### NESHAP Project

- >260 ln.<sup>2</sup>, 160 sq.<sup>2</sup>, or 35 cu.<sup>2</sup>
- Supervisor required

#### Small Project

- < 260 ln.<sup>2</sup>, 160 sq.<sup>2</sup>, or 35 cu.<sup>2</sup>
- > 25 ln.<sup>2</sup>, 25 sq.<sup>2</sup> or 10 cu.<sup>2</sup>

#### Minor Project

- < 25 ln.<sup>2</sup>, 25 sq.<sup>2</sup> or 10 cu.<sup>2</sup>

### OSHA

#### Class I (32 hr Training) – TSI & Surfacing

- > 25 ln.<sup>2</sup> or 10 sq.<sup>2</sup>
- Decon required
- < 25 ln.<sup>2</sup> or 10 sq.<sup>2</sup>
- Change area required w/ no NEA
- Competent Person required (40 hr.)

#### Class II (8 hr Training)

- Unlimited, no quantity designated
- ACM which is not TSI & Surfacing
- Competent Person required (40 hr.)

#### Class III (16 hr Training) Repair & Maintenance

- ACM including TSI & Surfacing “likely to be disturbed”
- No greater than a 60”x60” waste/glove bag
- Competent Person required (16 hr.)

#### Class IV (2 hr Training) Awareness, Maintenance and Custodial

- May contact, but not disturb
- Competent Person required (16 hr Training)

### INTERNET REFERENCES

- 1) Environmental Monitoring Systems  
Sampling Cassettes, Pumps, Calibration Equipment, Microscopes, Air Scrubbers, HEPA Vacuums, Respirators, PPE, IAQ Disinfectants and related IAQ Supplies. 3864 Leeds Avenue, Charleston, SC 29405, TEL 800-293-3003, <http://www.emssales.net>
- 2) NVLAP PLM Labs – <http://ts.nist.gov/standards/scopes/plmtm.htm>

- 3) Asbestos TEM Labs – <http://ts.nist.gov/standards/scopes/temtm.htm>
- 4) EPA Regions Website - <http://www.epa.gov/epahome/locate2.htm>
- 5) EPA Regional Contacts - <http://www.epa.gov/asbestos/pubs/regioncontact.html>
- 6) ACM Training - <http://www.epa.gov/asbestos/pubs/location.html>
- 7) Code of Federal Regulations - [www.access.gpo.gov/nara/cfr/](http://www.access.gpo.gov/nara/cfr/)
- 8) EPA Asbestos - <http://www.epa.gov/asbestos/>
- 9) EPA INFO Resources - <http://www.epa.gov/asbestos/pubs/pubs.html>
- 10) EPA ACM SCHOOLS - <http://www.epa.gov/asbestos/pubs/schools.html>
- 11) EPA ACM in Your Home - <http://www.epa.gov/asbestos/pubs/ashome.html>
- 12) EPA ACM REGS - <http://www.epa.gov/asbestos/pubs/abreg.html>
- 13) EPA NDAAC Training - <http://www.epa.gov/asbestos/pubs/ndaac.html>
- 14) EPA ACM Vermiculite - <http://www.epa.gov/asbestos/#Vermiculite>
- 15) OSHA – [www.osha.gov](http://www.osha.gov)
- 16) OSHA ACM - <http://www.osha.gov/SLTC/asbestos/>
- 17) OSHA Asbestos Advisor 2.0 - <http://www.osha.gov/dts/osta/oshasoft/asbestos/>
- 18) OSHA ACM FACT SHEET - [http://www.osha.gov/OshDoc/data\\_AsbestosFacts/asbestos-factsheet.pdf](http://www.osha.gov/OshDoc/data_AsbestosFacts/asbestos-factsheet.pdf)
- 19) OSHA FAQ's - <http://www.epa.gov/region04/air/asbestos/inform.htm> as well as 48,49,50,51 and 52.html
- 20) RS Means – LBP Abatement Cost Estimation – [www.rsmeans.com](http://www.rsmeans.com) Repair and Remodeling
- 21) American Institute of Architects - <http://www.aialongisland.com>
- 22) ASTM Standards on Asbestos Hazards Associated with Buildings – <http://www.ASTM.com>

### ANALYTICAL METHODS, etc:

- Standard PCM for Air Filter Analysis
- Standard PLM Method
- PLM with Gravimetric Reduction
- TEM with Gravimetric Reduction
- TEM Drop Mount

NIOSH Method 7400 – <http://www.cdc.gov/niosh/nmam/pdfs/7400.pdf>

NIOSH Method 7402 – <http://www.cdc.gov/niosh/nmam/pdfs/7402.pdf>

OSHA Method 9000 – <http://www.cdc.gov/niosh/nmam/pdfs/9000.pdf>

OSHA Method 9002 - <http://www.cdc.gov/niosh/nmam/pdfs/9002.pdf>

EPA Method 600/R-93/116 - <http://www.epa.gov/epahome/index/sources.htm>

Standard PLM Method has difficulty with many building materials – problem is organic fiber misidentification and interfering particulate making samples hard to read.

- Gravimetric reduction is recommended to make samples easy to read and quantify.
  - Removes all organic fibers and materials eliminating most fiber misidentifications.
  - Acid washing removes interfering calcite and gypsum which generally comprise 80-90% of common wall materials.
  - Concentrates asbestos for greater quantitation accuracy.
- Follow-up PLM or TEM analysis after gravimetric reduction provides greatly improved analytical results.

Cost Analysis (National Average of Published Prices – Single Sample – Standard Turnaround)

- Standard PCM for Air Filter Analysis ~ \$10
- Standard PLM Method ~ \$10 per layer
  - 400 Point Count ~\$100
  - 1,000 Point Count ~\$175
- TEM Drop Mount ~ \$30
- PLM with Gravimetric Reduction ~\$70
- TEM with Gravimetric Reduction ~\$75

**ACM STUFF:**

Environmental Monitoring Systems

Sampling Cassettes, Pumps, Calibration Equipment, Microscopes,  
Air Scrubbers, HEPA Vacuums, Respirators, PPE, IAQ  
Disinfectants and related IAQ Supplies. 3864 Leeds Avenue,  
Charleston, SC 29405, TEL 800-293-3003,  
<http://www.emssales.net>

**REGULATORY REFERENCES:**

Asbestos Regulations – Links - <http://www.epa.gov/asbestos/pubs/asbreg.html>

**TSCA (15 U.S.C. § 2601 et seq.) Title 1 - Control of Toxic Substances**

*Please note that most of the full text versions below are those available at  
[Cornell University](#).*

[§ 2605. Regulation of hazardous chemical substances and mixtures.](#)

**TSCA (15 U.S.C. § 2601 et seq.) Title 2 - Asbestos Hazard Emergency Response**

- [§ 2641. Congressional findings and purpose.](#)
- [§ 2642. Definitions.](#)
- [§ 2643. EPA regulations.](#)
- [§ 2644. Requirements if EPA fails to promulgate regulations.](#)
- [§ 2645. Submission to State Governor.](#)
- [§ 2646. Contractor and laboratory accreditation.](#)
- [§ 2647. Enforcement.](#)
- [§ 2648. Emergency authority.](#)
- [§ 2649. State and Federal law.](#)
- [§ 2650. Asbestos contractors and local educational agencies.](#)
- [§ 2651. Public protection.](#)
- [§ 2652. Asbestos Ombudsman.](#)
- [§ 2653. EPA Study of asbestos-containing material in public buildings.](#)
- [§ 2654. Transitional rules.](#)
- [§ 2655. Worker protection.](#)
- [§ 2656. Training grants.](#)

**CAA (42 U.S.C. § 7401 et seq.) Title 1 - Programs and Activities**

- [§ 7412. Hazardous air pollutants.](#)

**Code of Federal Regulations - CFR**

**2003 40 CFR 763 [PDF]** - <http://www.epa.gov/asbestos/pubs/2003pt763.pdf>

**2003 40 CFR 61 [PDF]** - National Emission Standard Hazardous Air  
Pollutants (NESHAP) - The standards for asbestos are contained in 40 CFR  
61.140 through 61.157. <http://www.epa.gov/asbestos/pubs/2003pt61.pdf>

For a FREE Catalogue:

See our Website <http://www.emssales.net>

Or

Call 800-293-3003