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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

MEMORANDUM

DATE: June 17, 2002

SUBJECT: **LABS OFFERING EPA's ULTRASONICATION TEST FOR CARPETS AND OTHER FABRICS**

ADDENDUM TO 6/9/02 MEMORANDUM

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TO: Affected Parties and Responsible Officials

This memorandum lists laboratories currently known[1] to offer EPA's ultrasonication test for dust in carpets and woven fabrics.[2] This state-of-the-art test gives results as the number of asbestos structures per square centimeter (s/cm^2). The results can then be related to background levels and safety guidelines.

A major advantage in this test is that you do not need a consultant or industrial hygienist to take samples. The laboratory cost for an ultrasonication test is not substantially more than for a microvacuum test (around $150), which requires a consultant to take the sample.

This memorandum is an addendum to my 6/9/02 memorandum titles "Carpets, the Asbestos Reservoir" which discusses the method in much greater detail. The 6/9/02 memorandum is posted at the New York Environmental Law and Justice web site at www.NYenviroLAW.org.

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* The conclusions and opinions in this memorandum are those of the author and do not necessarily reflect those of the U.S. Environmental Protection Agency.

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LABORATORIES OFFERING EPA's ULTRASONICATION TESTING OF CARPETS[3]

Method Number EPA 600/J-93/167

Labs which have responded as of 6/17/02

COSTS are for individual samples, which in almost all cases must be pre-paid (such as by credit card). Discounts may be available for larger volumes of samples as well as for clients with contracts. Costs may change. Additional labs/lab locations may be added. This list was distributed as soon as possible to facilitate testing.

ATC Associates Inc., 104 E. 25th Street 10th Floor, New York, NY 10010, Contact: Ms. Milena Lowd, Phone: 212-353-8280 x247, Fax: 212-353-3599, E-Mail: Lowd15@ATC-ENVIRO.COM, URL: ATC-ENVIRO.COM	$200 for flexible turnaround time, single samples from individuals, pre-paid
Clayton Group Services, 3380 Chastain Meadows Pkwy., Suite 300, Kennesaw, GA 30144, Contact: Mr. Alan M. Segrave, Phone: 770-499-7500, Fax: 770-423-4990, E-Mail:asegrave@claytongroup.com, URL: http://www.claytongrp.com	$200 for 3-day turnaround $190 for 5 day turnaround single samples from individuals, pre-paid
Eastern Analytical Services, Inc., 4 Westchester Plaza, Elmsford, NY 10523-1610, Contact: Mr. Paul Stascavage, Phone: 914-592-8380, Fax: 914-592-8956, E-Mail: PaulS@EASInc.com	$250 for a single sample, 3-5 day turnaround single samples from individuals, pre-paid
EMSL Analytical, Inc.,107 Haddon Avenue, Westmont, NJ 08108-2799, Contact: Mr. Stephen Siegel, CIH, Phone: 856-858-4800, Fax: 856-858-4960, E-Mail: ssiegel@emsl.com, URL: www.emsl.com	$250 for 3-day turnaround $200 for 5 day, single samples from individuals, pre-paid
Hygeia Laboratories Inc., 82 W. Sierra Madre Blvd., Sierra Madre, CA 91024-2434, Contact: Mr. Gustavo Delgado, Phone: 626-355-4711, Fax: 626-355-4497, E-Mail: gdelgado77@atc-enviro.com. , URL:http://www.atc-enviro.com	$250 for 1-2-day turnaround $200 for 3-5 day, single samples from individuals, pre-paid
Hygeia Laboratories, Inc., 9955 NW 116 Way, Suite 1, Miami, FL 33178, Contact: Mr. Julio Lopez, Phone: 305-882-8200, Fax: 305-882-1200, E-Mail: LOPEZ31@ATC-ENVIRO.COM, URL: http://www.atc-enviro.com	$250 for 1-2-day turnaround $200 for 3-5 day, single samples from individuals, pre-paid
International Asbestos Testing Laboratory, 16000 Horizon Way, Unit 100, Mt. Laurel, NJ 08054, Contact: Mr. Frank E. Ehrenfeld, III, Phone: 856-231-9449, Fax: 856-231-9818, E-Mail: frankehrenfeld@iatl.com, URL: www.iatl.com	$250 for 3-day turnaround $200 for 5 day, single samples from individuals, pre-paid
Materials Analytical Services, Inc., 3945 Lakefield Court, Suwanee, GA 30024, Contact: Dr. William E. Longo, Phone: 770-866-3200, Fax: 770-866-3259, E-Mail: wlongo@mastest.com, URL: http://www.mastest.com	$250 for 3-day turnaround $200 for 5 day, single samples from individuals, pre-paid
Scientific Laboratories, Inc., 13635 Genito Road, Midlothian, VA 23112, Contact: Dr. Thomas R. McKee, Phone: 804-763-1200, Fax: 804-763-1800, E-Mail: tmckee@scilabs.com, URL: http://www.scilabs.com	$250 for 3-day turnaround $200 for 5 day, single samples from individuals, pre-paid

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HOW TO TAKE AND SUBMIT SAMPLES

Call the lab and confirm that they can perform "EPA's ultrasonication extraction asbestos method for carpet using TEM, the Millette method."[4] Use this phrase to describe the test when talking to the lab. The EPA method number is EPA-600/J-93/167, but most lab receptionists will not recognize the method by just this number.

Ask the lab for instructions for sending the sample. Labs will refuse your samples if you do not follow their instructions exactly. Carpet and fabric samples should be enclosed in double Ziplock® sealed baggies.

Laboratories will require that you fill out their Chain of Custody form. Often you can download the chain of custody form from their web site, or they will fax it to you. You must indicate on the form that the carpet is to be tested by the EPA ultrasonication Millette method. You may need to fill in this information in the "OTHER" section of the form. If you do not clearly indicate the test method, the carpet may be analyzed by the bulk PLM method, which you do not want.

Ask them about pre-payment. A credit card number is the most convenient way. The cost of an ultrasonication carpet extraction test is around $250 for a 3-day turnaround, and $200 for a 5-day turnaround.

Ideas for taking carpet and other fabric samples

Choose a part of the carpet that would be most contaminated. A high traffic area would be a good choice. Also, a corner of a carpet that cannot be cleaned easily with a vacuum cleaner might be a good choice. A strip along a floorboard under a window that gets dusty is another possibility.

Cutting out 16 square inches of carpet may be a problem, especially if you are a renter. Here are a few strategies: The carpet sample does not need to be in a square shape (4 x 4 inches). It also can be a narrow strip, like 1 x 16 inches or 2 x 8 inches. It also does not necessarily have to be in one piece, but a large number of small pieces will make it very difficult for the lab to measure the exact area.

If you do not have extra matching carpeting to replace the part that is cut out, you may be able to find matching replacement pieces in a closet, under a desk or bookshelf, etc. The carpet sample that would be tested would still come from the place that is most contaminated. However, carpet from the closet or under a desk would be used to fill in the hole left by taking the sample.

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Another idea would be to take a carpet sample from the center of hallway, and then replacing just the center of the hallway with contrasting carpeting. An inset rectangle or diamond shape would be very attractive.

For common areas in a building, a carpet-type floor mat could be tested if there is concern about cutting out a piece of a rug or wall-to-wall carpeting. First, purchase a replacement mat yourself. Then, retrieve, replace, and test the old mat.

A long narrow strip from the hem of draperies can be used for the samples, or the drapery lining can be used. For upholstered furniture, a side that does not show can be tested, but it would be preferable to test a piece from a flat, upper horizontal surface which would be more contaminated.

Superiority and advantages of the ultrasonication carpet test

Some argue that testing carpet and fabrics with the hand-held ASTM microvacuum suction pump would be a good enough test, since it would get out the easily releasable asbestos. In this method, carpet and other fabrics are sampled by a hand-held air suction pump. The fabric is essentially vacuumed by the pump. The asbestos is caught on a filter, and then the filter is sent to the lab for testing.

However, this ASTM microvacuum sampling pump is only a first-line test for carpet and other woven fabrics, and is not definitive. The microvacuum pump does not apply any greater suction than a good vacuum cleaner. High impacts, such as a child running or rolling on the carpet, will release much more asbestos than any vacuuming process. The EPA ultrasonication method will extract over 100 times the amount of asbestos from carpet compared to the ASTM microvacuum method. The ultrasonication method is also an official EPA method specific to carpet, and is thus preferred.[5]

The most meaningful asbestos test that a resident can have, whether or not they have a consultant to take samples, is EPA's ultrasonication extraction test for carpeting, draperies, or upholstery fabric. Over 100 times the amount of asbestos will be found in carpet using EPA's ultrasonication test, compared to the ASTM microvacuum sampling method.[6]

An ultrasonication test may be the best way to tell if asbestos is present in a residence or office. Carpeting and upholstered fabric can be tested to see if it needs abatement, or it can be tested after abatement to determine whether it was decontaminated. Hard smooth surfaces may show no asbestos contamination with the ASTM microvacuum method if tested soon after cleaning. But carpeting cannot be cleaned effectively, and will show any residual asbestos.

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My 6/9/02 memorandum, titled Carpet, the Asbestos Reservoir, provides information on how to compare the results of the test with any increased risks from asbestos exposure. This memorandum may be found at www.NYenviroLAW.org.

REFERENCES

1. The laboratories were located by sending an email inquiry to all asbestos laboratories certified under the National Voluntary Laboratory Accreditation Program and listed on NIST website. Any additional laboratories should contact me so that their laboratory can be included in updated listing.

2. Millette, J.R.; Clark, P.J.; Brackett, K.A.; Wheeles, R.K. (1993) Methods for the analysis of carpet samples for asbestos. Environmental Protection Agency, Cincinnati, OH (United States). Risk Reduction Engineering Lab. (6 pages) NTIS Report Number: PB-93-194355/XAB , EPA Publication Number EPA--600/J-93/167. Available from the National Technical Information Service (NTIS) online for no charge at www.NTIS.gov

Millette, J. R., *et al.* (1994) Appendix 4, Methods for the Analysis of Carpet Samples for Asbestos. In: *Settled Asbestos Dust. Sampling and Analysis*, Lewis Publishers, CRC Press.

3. A complete list of all labs certified to perform TEM tests for asbestos is available from the National Institute for Standards and Technology (NIST) Laboratory Accreditation Administration, Gaithersburg, MD 20899 (telephone 301-975-4016), http://ts.nist.gov/ts/htdocs/210/214/scopes/temtm.htm

4. Millette, J.R.; Clark, P.J.; Brackett, K.A.; Wheeles, R.K. (1993), *op. cit.*

5. Millette, J. R., *et al.* (1994), *op. cit.*

6. Millette, J.R.; Clark, P.J.; Brackett, K.A.; Wheeles, R.K. (1993), *op. cit.*

Millette, J. R., *et al.* (1994), *op. cit.*

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