



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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MEMORANDUM

To: Asbestos Entities, Professionals
From: DEP Lead and Asbestos Hazard Prevention Program
Date: March 24, 2015
Subject: Analysis of non-friable organically bound materials

The Department is committed to seeking opportunities that reduce the costs of meeting regulatory requirements for Maine businesses while also protecting public health and the environment. To that end, the Lead and Asbestos Hazard Program has reviewed the requirement to analyze non-friable organically bound materials (NOB's) using PLM NOB EPA 600/R-93/116 with gravimetric preparation method. In accordance with Asbestos Management Regulations, 06-096 CMR Chapter 425.6(B)(2)(e) (last amended April 2011) DEP is issuing this blanket approval to use the alternative analytical approach described below.

NOB Overview

NOB's (e.g. floor tile, asphalt shingles, caulking, mastics etc.) have been categorized by the USEPA as materials that are difficult to analyze by Polarized Light Microscopy (PLM). A common problem is matrix interference, whereby the binding materials in certain building products mask asbestos fibers in the sample. Based on information from NVLAP/AIHA Proficiency rounds, it is estimated that 2-15% of vinyl floor tile samples analyzed using only PLM are erroneously reported as negative; gravimetric sample preparation significantly improves the ability of the analyst to determine if the NOB material is actually asbestos-containing.

Current Regulatory Review

In 2011, the Department revised Chapter 425 analytical requirements to include a requirement that the analysis of NOB samples include the gravimetric sample preparation method [06-096 CMR 425.6(B)(2)(d)]. The 2011 revision also provides for the Department to approve other analytical methods rather than the standard PLM method [06-096 C.M.R 425.6(B)(2)(e)].

Finding

The Lead and Asbestos Hazard Program, as provided under 06-096 CMR 425.6(B)(2)(d), approves the following alternative analytical protocol for NOB miscellaneous materials for persons that prefer to use it.

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1235 CENTRAL DRIVE, SKYWAY PARK
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In lieu of analyzing NOB's bulk samples in accordance with 06-096 CMR 425.6(B)(2)(d), NOB bulk samples may be analyzed using PLM EPA 600/R-93/116 without gravimetric sample preparation. If all three bulk samples¹ analyzed by PLM EPA 600/R-93/116 without gravimetric sample preparation are less than 1% asbestos then the bulk samples must be confirmed by PLM NOB-EPA 600/R-93/116 with gravimetric sample preparation as having less than 1% asbestos in order for the NOB ACM material to be determined not to be asbestos-containing. If one of the NOB samples re-analyzed using gravimetric preparation is equal to or greater than 1% asbestos then the NOB material is considered to be asbestos-containing. 06-096 CMR 425.6(B)(2)(d)(i),(ii) may also apply to NOB samples that are analyzed by PLM EPA 600/R-93/116 without gravimetric sample preparation, as applicable.

06-096CMR 425.6(B)(2) currently states:

- (2) Analysis. Bulk samples collected pursuant to this rule must be analyzed by a Department-licensed Asbestos Analytical Laboratory as described below.*
- (a) Bulk samples shall be analyzed until a positive result is obtained or all samples have been analyzed. Reanalysis is not required if the sample result is less than 1%.*
- (b) Wherever there is a suspect asbestos-containing material and a mastic/adhesive affixed to that material, the mastic/adhesive shall be analyzed and reported separate from the suspect asbestos-containing material.*
- (c) Analysis of suspect asbestos-containing surfacing materials, thermal system insulation and cementitious materials.*
- (i) Bulk samples of surfacing materials and thermal system insulation and cementitious materials shall be analyzed using the PLM-EPA 600/R-93/116 visual estimation method (1993).*
- (ii) Point counting surfacing materials and thermal system insulation samples. The asbestos consultant shall advise the building owner or owner's agent whenever the asbestos analytical laboratory has reported friable bulk samples with an asbestos content of less than 10% using the standard visual estimation PLM-EPA 600/R-93/116 method. The building owner or the owner's agent may either elect to treat the bulk material as asbestos-containing with no point counting required, or may request that the laboratory further characterize asbestos percentage by using a point count method. Point counting methods are as follows:*

*PLM EPA/600/R-93/116 (200 Point Count);
PLM EPA/600/R-93/116 (400 Point Count); and
PLM EPA/600/R-93/116 (1000 Point Count).*

¹ NOB bulk samples are classified as miscellaneous ACM; three bulk samples from each miscellaneous material must be randomly collected from each homogeneous area [06-096 C.M.R 425.6(B)(1)(c)].

(iii) *Alternative analytical method for suspect asbestos-containing surfacing materials, thermal system insulation and cementitious materials. The asbestos consultant shall advise the building owner or the building owner's agent whenever the asbestos analytical laboratory has determined is it not feasible or appropriate to have bulk sample(s) of suspect asbestos-containing surfacing materials, thermal system insulation and cementitious materials analyzed using the standard visual estimation PLM-EPA 600/R-93/116 method: The building owner or the building owner's agent may then either elect to treat the suspect bulk material(s) as asbestos-containing with no further analysis required, or may consent to the use of an alternative analytical method, EPA 600/R-93/116 section 2.5.5.2 (TEM % by Mass), to determine whether the suspect bulk sample(s) is asbestos-containing.*

(d) *Analysis of asbestos-containing non friable organically bound materials (NOB) Bulk samples of non-friable organically bound materials (NOB) including but not limited to floor tiles, asphalt shingles, caulking, glazing, mastics, coatings, sealants, adhesives and glues shall be analyzed using PLM NOB–EPA 600/R-93/116 with gravimetric preparation method.*

(i) *Point Counting NOB samples:*

The asbestos consultant shall advise the building owner whenever the asbestos analytical laboratory has reported an NOB sample with an asbestos content of less than 10% using PLM NOB–EPA 600/R-93/116 with gravimetric preparation method. The building owner may either elect to treat the NOB sample as asbestos-containing with no point counting required, or may request that the laboratory further characterize asbestos percentage by using a point count method. The analyst shall point count the sample residue after the gravimetric preparation is completed and/or in accordance with the analytical method

(ii) *Alternative analytical methods for non- friable organically bound materials (NOB) samples:*

The asbestos consultant shall advise the building owner whenever the asbestos analytical laboratory has determined is it not feasible or appropriate to have suspect bulk samples of NOB's analyzed using the standard PLM-EPA 600/R-93/116 with gravimetric preparation: The building owner may then either elect to treat the suspect bulk material(s) as asbestos-containing with no further analysis required, or may consent to the use of an alternative analytical method to determine whether the suspect bulk sample(s) is asbestos-containing.

The alternative methods include:

*TEM EPA NOB EPA/600/R-93/116b section 2.5, and
TEM Chatfield method*

(e) *An analytical laboratory may use TEM, or other Department-approved analytical method, for bulk sample rather than the standard PLM analytical method set forth in this section. Asbestos consultant that collected the bulk samples for the building owner*

must document that the building owner or owner's agent received information regarding the standard analytical protocol set forth in this section by obtaining the building owner's or owner's agent's signature on a statement acknowledging receipt of the information before the sample analysis for TEM analysis begins.

Should you have questions concerning this guidance, or if we can be of further assistance in answering any of your asbestos-related questions, please do not hesitate to call Lead & Asbestos Hazard Prevention Program staff at (207) 287-2651.