

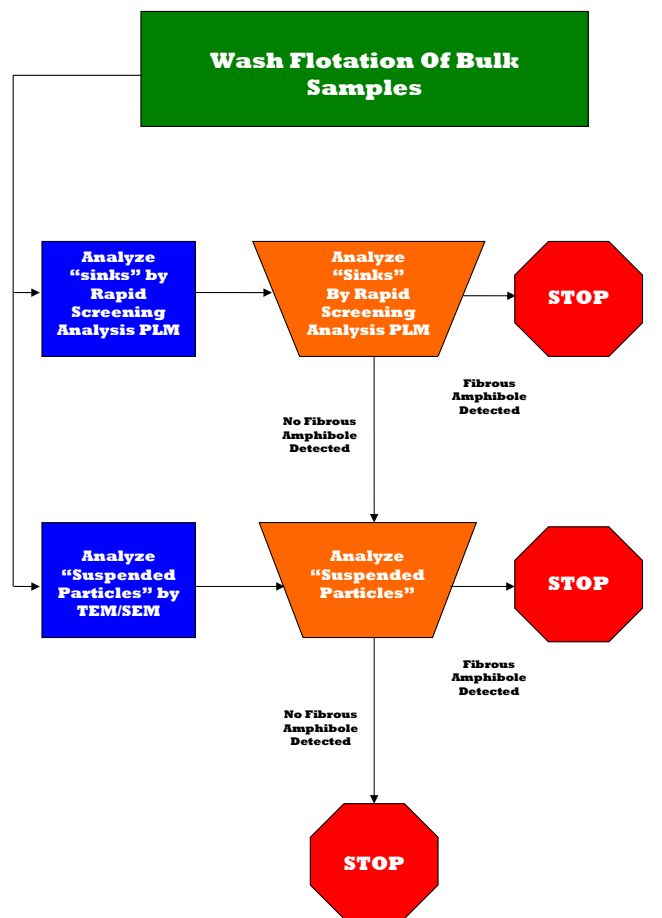
Asbestos in Vermiculite

Vermiculite is a mineral which is used in insulation, among other commercial and consumer products, due to its fire-resistance and insulating properties. Vermiculite insulation has not been on the market in Canada since 1990 and while not all vermiculite insulation contains amphibole asbestos fibres, it is reasonable to assume that older vermiculite-based insulation may contain these fibres. Analysis of this type of insulation is recommended prior to disruption of this material for any reason.

Methodology Information

Due to the physical properties of vermiculite insulation, traditional asbestos analytical methods used for other bulk building materials do not provide the precision required for adequate quantification of asbestos fibres. Hence, Ontario Regulation 278 recommends the Chatfield Method be utilized for vermiculite insulation analysis as per EPA method 600/R-04/004. This method is more precise and accurate due to the extraction process used to separate the amphibole asbestos fibres.

The extraction procedure is a two step process in which the sample is processed and separated into 2 fractions by soaking and mixing the sample in water. Generally, the larger or heavier amphibole materials will sink and the lighter will float on the surface of the water, referred to as the 'sinks fraction' and 'floats fraction', respectively. The asbestos concentration in the vermiculite sample is determined by weighing the original sample, the fractions and the asbestos recovered. Results of analysis by the Chatfield Method are reported as the asbestos percentage by weight which differs from the Visual Estimation/Point Count PLM method, which reports the percentage of asbestos by sample volume. More information in relation to this method can be found in the US EPA document *Research Method for Sampling and Analysis of Fibrous Amphibole in Vermiculite Attic Insulation*, located at <http://www.epa.gov/asbestos/pubs/vairesearchmethodfinal.pdf>.



Analytical Sequence

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Sample Requirements

Again, due to the physical properties of vermiculite insulation, sample size specifications for this type of matrix differ from bulk sample requirements. A minimum of 50 grams of vermiculite is required for analysis; sample submissions with less than this amount may be delayed or will require additional volume in order to complete the analysis or the data will be qualified as “insufficient sample”. Typically, 50 grams of vermiculite sample can be obtained by providing a **full** 6” x 7” Ziploc bag. When in doubt, providing more volume is always preferable to providing less. Paracel has laboratories based in Ottawa and Mississauga which can provide the Chatfield Method of Rapid Screening Analysis by PLM for analysis of vermiculite samples, please don’t hesitate to call any of the Service Team with questions in regards to the methodology or sampling requirements.



Vermiculite Insulation

The Service Team at Paracel is fully committed to continuous improvement and providing complete solutions to our clients in respect to their analytical requirements. If you have any questions in regards to this document or your sampling program, please don’t hesitate to contact Paracel’s Service Team at 1-800-749-1947 or by email at paracel@paracellabs.com.