



**Office of Environmental Health and Safety
UNIVERSITY OF TORONTO**

Collection of Bulk Materials for Asbestos Analysis

This document describes the method for the collection of bulk samples of building materials suspected of containing asbestos. Representative samples are collected to determine its asbestos type and content. Multiple samples of suspect building materials are collected to allow for comparison of similar suspect materials and to eliminate decisions based on one sample. The following SOP is based on the sampling strategies of the United States – Environmental Protection Agency (EPA) ([40 CFR Ch. I § 763.86 - Sampling](#)). In Ontario, Table 1 of the Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations (O. Reg. 278/05) requires at a minimum of three (3) to seven (7) samples of any suspect building material. Sampling should take into account the date of building construction and any building additions. Where building additions or different construction dates are known, sampling should be conducted separately and stand-alone for each building component.

TABLE 1
BULK MATERIAL SAMPLES
Subsection 3 (3)

Item	Type of material	Size of area of homogeneous material	Minimum number of bulk material samples to be collected
1.	Surfacing material, including without limitation material that is applied to surfaces by spraying, by troweling or otherwise, such as acoustical plaster on ceilings and fireproofing materials on structural members	Less than 90 square metres	3
		90 or more square metres, but less than 450 square metres	5
		450 or more square metres	7
2.	Thermal insulation, except as described in item 3	Any size	3
3.	Thermal insulation patch	Less than 2 linear metres or 0.5 square metres	1
4.	Other material	Any size	3

O. Reg. 278/05, Table 1.

Per section 10(11) of O. Regulation 278/05, sampling of a suspect material to determine if it contains asbestos does not fall under Type 1, 2 or 3 work which are outlined in the regulation. The following procedures should be followed in the collection of suspect asbestos-containing materials:

- Where possible, materials should be sampled in a discrete location and in areas that are not in use or not occupied.
- Where practical, use a drop sheet.

- Use personal protective equipment (PPE). Gloves are the minimum PPE. Respiratory protection (full or half-face air purifying respirator with HEPA cartridges) should be worn if sample collection is likely to generate significant airborne fibres based on risk assessment. For access to ceiling spaces where there is sprayed asbestos fireproofing to collect sample, follow type 2 procedures including the use of a full-face air-purifying respirators with HEPA cartridges.
- Ventilation shutdowns are generally not required unless accessing ceiling spaces where there is sprayed asbestos fireproofing to collect sample.
- When sampling friable materials, dampen the material with amended water.
- Collect sample ensuring all layers to substrate are collected.
- Decontaminate, using amended water or alcohol wipes sampling tools before collecting the next sample.
- Collect at a minimum one teaspoon of representative material (approx. 2 square inches).
- Place collected sample in a zip-lock bag and label with a sample number.
- Include sampling date and project number on the label (optional).
- Record the sample material and location description in field notes. Mark sample location on floor plans.
- Take a photograph of each sample location and of all suspect or presumed asbestos building materials.
- Complete the laboratory chain of custody for sample submission (indicate polarized light microscopy (PLM) or transmission electron microscopy (TEM) analysis and expected return date for analysis)
- The samples shall be sent for analysis to an accredited laboratory participating in National Voluntary Laboratory Accreditation Program (NVLAP) Accredited Lab “Certificate of Analysis” for the determination of Asbestos Containing Materials (ACM).
- Repair all sample locations with duct tape, canvas cloth, latex paint, or suitable alternative.
- Ensure all debris generated from the sampling is properly cleaned up (HEPA vacuuming or damp wiping).