

Part 1 General**1.1 RELATED SECTIONS**

1. 02 82 00.01 – Asbestos Minimum Precautions
2. 02 83 20 – Lead Precautionary Measures
3. 02 89 00 – Silica Precautionary Measures

1.2 REFERENCES

1. *Federal Legislation*
 1. *Canada Labour Code, Part II, section 124 and 125.*
 1. *Canada Occupational Health and Safety Regulations*
 2. *Transportation of Dangerous Goods Act, 1992 (TDGA)*
 3. *PSPC Asbestos Management Directive*
 4. *Canada Consumer Product Safety Act*
 1. *Surface Coating Materials Regulations SOR/2005-109.*
 5. *Canadian Environmental Protection Act, 1999 (CEPA)*
 1. *PCB Regulations (SOR/2008-273)*
 2. *Federal Halocarbon Regulations, 2003 (SOR/2003-289)*
2. *Provincial Legislation*
 1. *Ontario Occupational Health and Safety Act, R.S.O. 1990,2010 edition*
 1. *Ontario Regulation 490/09 – Designated Substances (O.Reg. 490/09).*
 2. *Ontario Regulation 278/05 – Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations, (O.Reg. 278/05).*
 3. *Ontario Regulation 213/91 for Construction Projects (O.Reg. 213/91)*
 2. *Ontario Environmental Protection Act, R.R.O. 1990,*
 1. *Ontario Regulation 347/90, General – Waste Management (O.Reg. 347/90).*
3. *Canadian General Standards Board (CGSB).*
4. *Canadian Standards Association (CSA International). CAN/CSA-Z94.4-11 - Respiratory Protection*
5. *Underwriters' Laboratories of Canada (ULC).*

1.3 DEFINITIONS

Asbestos-Containing Materials (ACMs): means material that contains 0.5 per cent or more asbestos by dry weight as per Ontario Regulation 278/05.

Friable Material: material that when dry can be crumbled, pulverized or powdered by hand pressure and includes such material that is crumbled, pulverized or powdered.

Time-weighted average exposure limit (TWael): the time-weighted average airborne concentration of a biological or chemical agent to which a worker may be exposed in a work day or work week as prescribed by *Ontario Regulation 490/09 Designated Substances*, as amended.

1.4 DESIGNATED SUBSTANCES

Confirm with the Departmental Representative that no additional designated substances have been brought to the project area prior to beginning work.

Additional designated substances and hazardous materials may exist outside the accessible survey areas but are beyond the scope of this project.

Should any additional material, suspected to be a designated substance, be encountered within the project area, any disturbance of such material must be stopped, precautionary measures taken, and the Departmental Representative must be notified immediately. Do not proceed until written instructions have been received.

1. ACRYLONITRILE: Not Identified

2. ARSENIC: Not Identified

3. ASBESTOS: **Identified**

Bulk sampling and subsequent laboratory analysis has determined that the following materials contain regulated amounts of asbestos:

- Non-friable window putty located on windows adjacent to the filtration system was confirmed to contain 0.5% Chrysotile asbestos. Approximately six (6) linear metres of caulking was observed in poor condition.

Bulk sampling and subsequent laboratory analysis has determined that the following materials do not contain regulated amounts of asbestos:

- Mortar located in the joint of the concrete pad and the floor,
- Concrete block mortar located on walls adjacent to the sand filter, and
- Mortar associated with tie offs (to external stone block façade).

It should be noted that internal insulation or refractory linings of the sand filter system tanks (if present) were not accessible to DST at the time of the survey for investigation or bulk sampling, as applicable. Should internal linings be encountered as part of future work operations, these materials should be assumed to contain asbestos, unless proven otherwise by specific bulk sampling and laboratory analysis.

4. BENZENE: Not Identified
5. COKE OVEN EMISSIONS: Not identified
6. ETHYLENE OXIDE: Not Identified
7. ISOCYANATES: Not Identified
8. LEAD: **Identified**

The following paints contain concentrations of lead greater than the Federal Canada Consumer Product Safety Act's limit of 90 ppm:

- Black paint located on window frame of wall immediately adjacent to the sand filter system contains 808 ppm lead.

The following paints contain concentrations of lead less than the Federal Canada Consumer Product Safety Act's limit of 90ppm:

- Yellow paint applied to concrete pad contains less than 20 ppm (less than laboratory detection limit), and
- Green paint applied to sand filter piping contains 75 ppm lead

All other paints and surface coatings not sampled throughout the project areas shall be assumed to contain detectable concentrations of lead, unless specific bulk sampling and laboratory analysis proves otherwise.

9. MERCURY: Not Identified
10. SILICA: **Identified**

Based on the historic composition of building materials, silica is expected to be present in:

- Concrete and cement building elements,
- Filtration media,
- Concrete block and mortar,
- Ceramic tiles, marble, mortars and grout.

11. VINYL CHLORIDE MONOMER: Not Identified

12. POLYCHLORINATED BIPHENYLS (PCBs): Not Identified

13. HALOCARBONS: Not Identified

1.5 RECOMMENDATIONS

1. ASBESTOS

1. All work must be done in accordance with *Canada Occupational Health and Safety Regulations (as amended)*, and *O.Reg 278/05 (as amended)*. In the event of conflict between the federal and provincial regulations, the most stringent one apply.
2. The disturbance of ACMs on construction and demolition projects by the *Canada Occupational Health and Safety Regulations*, PSPC Asbestos Management Directive, and in the province of Ontario by *O.Reg 278/05*, as amended. These Regulations classifies all asbestos disturbances as Low Risk (Type 1), Moderate Risk (Type 2), or High Risk (Type 3), each of which has defined precautionary measures. All asbestos materials are subject to specific handling and disposal precautions, and must be removed prior to demolition. The Ontario Ministry of Labour (MoL) must be notified of any project involving removal of more than a minor amount (e.g. typically 1 square metre) of friable asbestos material.
3. Low Risk work procedures can be used for the removal of non-friable ACMs, provided that the material can be wetted and removed using only non-powered hand tools. If these conditions cannot be met, then more stringent (e.g., Moderate Risk or High Risk) procedures are necessary.
4. Disposal of asbestos waste must be done in accordance with “General – Waste Management” O.Reg. 347/90 (as amended) under the Ontario Environmental Protection Act and the federal Transportation of Dangerous Goods Act. The waste must be disposed at a licensed waste disposal site. Proper notification must be issued to the Departmental Representative prior to transportation of waste.

2. LEAD

1. Follow recommendations provided in the Ontario Ministry of Labour (MoL) Guideline entitled “Guideline: Lead on Construction Projects”. This guideline classifies all lead disturbances as Type 1, Type 2a, Type 2b, Type 3a or Type 3b work, and assigns different levels of respiratory protection and work procedures for each classification.
2. Work procedures and personal protective equipment must be used to ensure that workers are not exposed to airborne lead levels that exceed the TWael of 0.05 milligram per cubic metre (mg/m^3) prescribed by O.Reg. 490/09.
3. Even at low concentrations, there may be a potential for exposure to high concentrations of lead depending on the activities performed that disturb the lead-containing materials. At low lead concentrations, conducting a risk assessment to assess the potential for exposure is required to determine the need to follow precautionary measures.
4. The welding or high temperature cutting of lead-containing coatings or materials indoors or in a confined space is a Type 3a operation.
5. Disposal of construction waste containing lead must be done in accordance with O.Reg. 347/90 – General Waste Management, as amended, under the Ontario Environmental Protection Act and the federal Transportation of Dangerous Goods Act. The classification of the waste is dependent upon the result(s) of leachate test(s). The waste can be classified as “hazardous,” “non-hazardous” or “registerable solid waste” depending on the results of the leachate test.

3. SILICA

1. Comply with Ontario Regulations (O.Reg.) 490/09 when performing works that may disturb silica-containing materials. The regulation provides requirements for allowable exposure levels.
2. Silica dust can be generated through such processes as blasting, grinding, crushing, and sandblasting silica-containing material. Since silica is present in select materials within the project area, appropriate respiratory protection and ventilation must be donned during the demolition and modifications of these structures.
3. Follow recommendations provided in the MoL Guideline entitled “Guideline: Silica on Construction Projects”. This document classifies all silica disturbances as Type 1, Type 2 or Type 3 work, and assigns different levels

of respiratory protection and work procedures for each classification. These work procedures should be followed when performing work involving the disturbance of silica-containing materials.

Part 2 Products

2.1 NOT USED

.1 Not Used

Part 3 Execution

3.1 NOT USED

.1 Not Used

END OF SECTION