

Summary

This report discusses the health effects associated with exposure to asbestos fibres. A companion report, "Asbestos Part II: Locations, Evaluation and Control", describes the elements of an asbestos control program, and provides information to implement the recommendations in this report.

Asbestos is a proven human carcinogen. Its fibres can cause lung cancer and mesothelioma, a rare cancer of the chest cavity or abdomen. Uncertainty exists over their ability to cause cancer of the stomach or larynx. Asbestos fibres can also cause asbestosis, a respiratory disease.

An asbestos fibre becomes a potential health hazard when it is released into the air. Materials such as insulating products where fibres are loosely held in place are of most concern because asbestos fibres may separate easily. Asbestos has been used extensively in the B.C. forest industry for insulation and friction products.

There is widespread, but not unanimous, belief that crocidolite asbestos is more harmful than other types. Crocidolite is associated with higher incidences of mesothelioma than are other forms of asbestos such as amosite, and with much higher incidences than chrysotile.

The risk of developing asbestosis, lung cancer or mesothelioma increases with cumulative exposure, that is, the number of years of exposure multiplied by the airborne fibre concentrations. Relatively high cumulative exposure is associated with asbestosis, lung cancer and mesothelioma; moderate exposure with lung cancer and mesothelioma; and relatively low exposure with mesothelioma. The risk of developing lung cancer increases dramatically if a person exposed to asbestos also smokes.

The lower limit at which exposure to airborne asbestos can cause a measurable increase in cancer incidence is not known. However, the threshold

concentration is believed to be higher than normal background levels in buildings and from consumer items.

To minimize the potential health hazards associated with the use of asbestos, it is recommended that forest industry mills —

- develop an asbestos control program to locate asbestos products, evaluate the hazard, and control employee exposure to airborne fibres;
- remove or encapsulate materials containing loosely bound fibres, giving top priority to materials containing crocidolite;
- obtain written confirmation from suppliers that asbestos products do not contain crocidolite;
- use less hazardous substitute materials wherever possible.