



ASBESTOS



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ASBESTOS IS A DURABLE, FIRE RESISTANT MINERAL AND IN THE PAST WAS ADDED TO A VARIETY OF PRODUCTS TO PROVIDE STRENGTH, HEAT INSULATION, AND FIRE RESISTANCE.

Due to these qualities it became widely used in many products and industries. We now know however, that asbestos also causes damage to the lungs and has been implicated in several diseases including lung cancer and asbestosis.

ASBESTOS USES?

As many as 3000 uses of asbestos have been identified. Several of these uses are:

- Reinforcing agent in cement and piping
- High performance heat/fire resistant industrial ceramics
- Lining for brakes and clutch facings
- Insulator in steam piping
- Vinyl asbestos flooring
- Gaskets and packings
- Welding blankets
- Theatre curtains
- Chimney lining
- Window putty
- Roof felts
- Talc powder
- Decorative finish to walls

What is Asbestos?

- *Naturally occurring rock*
- *Composed of long thin fibres*
- *Individual fibres 1200 times thinner than human hair*
- *Inflammable*
- *30 different kinds, including: amosite, chrysolite, and crocidolite*

As the health hazards became known, use of asbestos decreased. Today, asbestos is not widely used and is generally only found in older buildings and facilities.

HEALTH HAZARDS OF ASBESTOS

Asbestos is not always dangerous, it is only when fibres become airborne that they pose a health risk. Inhaling asbestos fibres or even swallowing them can cause damage and lead to an asbestos-related disease.

Asbestos causes damage to the lungs by travelling with inhaled air through the network of airways in the lungs. At the end of these airways are 300 million tiny air sacs where oxygen from air enters the bloodstream. It is at these air sacs where asbestos causes damage. As only the tiniest asbestos fibres (*one ten-thousandth of an inch*) can make it to these air sacs, it is literally what you can't see that can hurt you. The more fibres inhaled, the greater the risk of developing a disease. Being a smoker also increases this risk making the situation even more threatening.

The following are several known diseases related to asbestos exposure:

Chronic Obstructive Pulmonary Disease (COPD): Is a group of lung diseases that involves limited airflow, airway inflammation, air sac enlargement, and lung tissue damage. Emphysema and chronic bronchitis are common forms of COPD.

Asbestosis:

Although they sound similar asbestos and asbestosis are different. Asbestosis is a disease characterised by a scarring of the lung tissue which makes breathing difficult. Common symptoms include: dry cough and shortness of breath. Asbestosis is irreversible, and will continue to

progress even after exposure stops. Detection of the disease can be done by a chest x-ray, CT scan, and lung function test.

Pleural Plaques: Develop within the lung lining of the lungs (*known as pleura*) and is an indicator of asbestos. Plaques rarely cause symptoms but they can be detected using x-ray or a CT scan.

Mesothelioma: A rare cancer involving the lining of the lung or abdomen. The time period between exposure to asbestos and symptoms of mesothelioma can often be in excess of 20 years.

Lung Cancer: Unlike asbestosis and mesothelioma, lung cancer is not simply caused by asbestos exposure. There are many causes of lung cancer, and there is no basic difference in a lung cancer caused by asbestos and that due to other causes. Exposure to asbestos combined with smoking greatly increases the risk of developing lung cancer, more so than they would individually.

Other Cancers: Several other cancers have been associated with asbestos exposure: laryngeal (*throat*); gastrointestinal (*esophageal, stomach, bowel, colon, rectum*); and genitourinary (*kidney*).

Symptoms of asbestos-related diseases take a long time to develop (*over 10 years*) and the disease may already exist before any symptoms are noticed. Common symptoms include: shortness of breath, cough, fatigue, chest pain, and occasionally blood in the sputum. These symptoms are common to many other diseases too, thus having such symptoms does not mean one has an asbestos-related disease.

WHEN IS ASBESTOS A HAZARD?

It is only when asbestos-containing materials are disturbed or damaged and fibres become airborne that a potential health hazard exists. In fact, if asbestos can be maintained in good condition it can pose only a minor hazard. In this instance, it is recommended that it be left alone and regular surveillance be performed to monitor

its condition. In the industry, the term ‘friable’ is used to describe asbestos that can be reduced to dust by hand pressure. ‘Non-friable’ is asbestos that is too hard to be reduced to dust simply by hand. Machine grinding, sanding, and dry buffing are ways of causing non-friable materials to become friable and thus airborne.

HOW ARE ASBESTOS CONTAINING MATERIALS MAINTAINED?

Repair of asbestos-containing material usually involves either sealing or covering asbestos material. Sealing (*or encapsulation*) involves coating materials so that asbestos is sealed, preventing it from becoming airborne. This process is only effective for undamaged asbestos-containing substances.

If materials are soft, crumbly, or otherwise damaged, sealing is not appropriate. Such materials can be covered by placing something over or around the material that contains asbestos to prevent release of fibres. While it is in the best interest of workers to have asbestos removed from the workplace, removal of it is a hazardous process in itself. It should only be performed by a contractor with special training and equipment. Improper removal may increase the health risks of asbestos to those exposed, not reduce them! Situations where removal may be required include remodelling, major structural changes and if the asbestos material is damaged and cannot otherwise be repaired.

IN CONCLUSION

- If asbestos is dry and floats in the air it poses a greater health risk than if the asbestos is encased or undisturbed.
- An asbestos exposure that occurred 10-20 years ago may be the cause of health problems occurring now.
- The time of onset of asbestos-related diseases depends upon the length of exposure, quantity of dust exposure, individual susceptibility, and the type of asbestos. It should be noted, however, that any type of asbestos fibre is dangerous to inhale or swallow.
- There is no evidence for a safe level of exposure for asbestos. The greater the exposure, the greater the chance of developing health problems.

If exposure to asbestos has occurred or if there is a health concern contact a physician or the Occupational Health Clinic for Ontario Workers Inc. For further information see the Regulation on Asbestos under the Occupational Health and Safety Act.

OHCOW OFFICES

If you need further assistance, call the Occupational Health Clinic for Ontario Workers Inc. Closest to you.

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