

CWA Occupational Safety & Health Fact Sheet #1

Asbestos & the Workplace

Asbestos is the name for a family of minerals that occur naturally as masses of fibers. Asbestos fibers may range in texture from silky to coarse. Asbestos is used by many industries because of its strength, flexibility, heat and chemical resistance, and good frictional properties.

There are six recognized types of asbestos: chrysotile, actinolite, amosite, anthophyllite, crocidolite, and tremolite. Of these chrysotile is used in over 90% of the products containing asbestos.

Most asbestos is used in the construction industry in building products, insulation, friction materials, and textiles. Manufactured products include asbestos cement sheets and pipes, patching and taping compounds, floor and ceiling tiles, and reinforcing fillers in paints and sealants.

OSHA estimates that over 500,000 employees work with asbestos products. Millions more are exposed because they work near or around work areas where asbestos products are used. Many thousands of CWA members work on jobs which expose them to asbestos. Such members work with or around insulation materials or friction products like clutch facings and brake linings. In addition, many CWA members who work at manufacturing, construction or renovation sites or perform telecommunications installation and service work in office buildings and private residences may be exposed to asbestos fibers released from building insulation.

Exposure may also occur in families of workers. Asbestos fibers may be carried into the home on the workers' bodies or clothing. Asbestos-related diseases have afflicted workers' families as a result of such exposure.

Health Effects

Asbestos bonded in finished products, such as brake linings and insulation materials, is not a risk to workers' health as long as the product is not disturbed or damaged in such a way as to free fibers into the air. However, when this happens, asbestos fibers have a tendency to break easily into dust or tiny particles. Asbestos fibers may be inhaled or swallowed. The fibers are like glass slivers and can become trapped in the tissues of the lungs and digestive system. Once asbestos fibers work their way into body tissues, they tend to remain there indefinitely.

Exposure to asbestos may cause several serious diseases.

- **Pleural plaque-** This stage of asbestos-related disease involves a thickening or fibrosis of the lining of the lungs that impairs breathing. Although pleural plaque is not life threatening it may contribute to more severe health problems such as pneumonia. In addition, because asbestos-related health problems are progressive, pleural plaque is likely to progress into more serious asbestos-related health effects like asbestosis and lung cancer.

- **Asbestosis-** After many years of asbestos exposure, the inhaled fibers will leave the lungs permanently scarred. This emphysema-like condition is known as asbestosis. Early warning signs include coughing, shortness of breath, and broadening of the fingertips. Such warning signs may not become noticeable for many years. If a worker should notice any of these symptoms, she/he should see a doctor immediately. A dry, crackling sound (rales) coming from the lungs during inhalation may occur later. In addition, a bluish discoloration of the skin and the lining of the mouth and tongue may develop.

Extreme cases of asbestosis will result in a total breakdown of the alveoli (air sacs) within the lungs. This will make it impossible for the worker to inhale enough oxygen. In turn, this may lead to heart failure because of the body's increased effort to pump blood through the lungs.

- **Lung Cancer-** After asbestos exposure, lung cancer may develop. This process may take as long as 20-30 years to occur. Experts indicate that lung cancer causes 20% of all deaths in asbestos workers. The degree of the disease depends on exposure, age, and length of asbestos-related work. Early warning signs of lung cancer may include coughing or a change in cough habit, chest pains, and the coughing up of blood-streaked sputum. If a worker should take notice of any of these warning signs, she/he should see a doctor immediately.

Workers who smoke should be particularly careful to avoid asbestos exposure. Asbestos workers who smoke regularly have a 92 times greater risk of dying from lung cancer than do non-smokers who do not work with asbestos. Further, asbestos workers who smoke have an eight times greater risk of developing lung cancer than the general smoking population.

- **Mesothelioma-** Mesothelioma is a cancerous tumor that involves the thin membrane lining the chest and abdomen. Early warning signs may include shortness of breath, chest pains, or abdominal pain. Occasionally, the abdominal pain is accompanied by a need to urinate or defecate. Such warning signs should be reported to a physician immediately.

Mesotheliomas account for about 10% of all asbestos workers' deaths.

- **Gastrointestinal cancer-** Asbestos that has contaminated food, beverages, cigarettes, etc. may be swallowed and passed into the digestive tract. Several studies have indicated a direct link between asbestos exposure and an increased occurrence of cancer of the esophagus, stomach, colon, and rectum.

CWA's Occupational Safety and Health Department has identified serious asbestos-related health problems among CWA active and retired members. Initiated in 1995, the Union's Asbestos Medical Surveillance Program has identified catastrophic rates of asbestos-related health effects among CWA members. For example, some 25% of more than 5,000 members who have participated in the medical screenings have developed severe asbestos-related health

problems, including pleural plaque, asbestosis, lung cancer, and mesothelioma. These findings have made asbestos medical surveillance a priority for CWA.

Controlling the Hazard

The Occupational Safety and Health Act of 1970 guarantees all workers the right to a safe and healthful workplace. CWA members who work with asbestos products or work in areas where there is an airborne asbestos hazard are protected by the OSHA Asbestos Standard. In such circumstances, the employer must provide and utilize engineering controls, work practice procedures, monitoring, medical surveillance procedures, personal protective equipment, and training and information materials. In addition, building and facility owners must determine the presence, location, and quantity of asbestos-containing and presumed asbestos-containing materials as well as maintain records specific to these materials. In turn, the information must be provided to affected employers, and through the employer(s), affected workers. Building and facility owners must maintain this monitoring data for the duration of ownership and, upon sale of the building/facility, transferred to successive owners. Also, building, facility owners, and employers must provide and post warning signs and labels at work locations where asbestos-containing and/or presumed asbestos-containing materials have been identified.

- **Engineering Controls-** Over an eight-hour shift, workers must not be exposed to more than an average of one-tenth of a fiber of asbestos longer than five micrometers in a cubic centimeter of air (0.1 f/cc). In addition, employers must ensure that workers are not exposed to more than one (1) f/cc of airborne asbestos averaged over a thirty-minute period.

In order that the standard is adhered to, the employer must use engineering controls such as isolation, enclosure, local exhaust ventilation systems, and dust collection. The employer (and involved workers) should make sure that the local exhaust ventilation system(s) is/are operating properly. If the system(s) is/are deficient, this should be reported immediately. Until the necessary repairs are made, the worker(s) must be supplied with an appropriate respirator.

- **Work Practices and Procedures-** In order that asbestos exposure is minimized/eliminated, the employer must develop and use appropriate, protective work practices and procedures. Issues of concern would include housekeeping procedures, wet-cleaning and vacuuming asbestos-containing waste and debris, and disposal of asbestos waste. Adherence to protective work practices and procedures is extremely important and necessary. (See the Environmental Protection Agency's (EPA) asbestos regulations for detailed asbestos clean-up and disposal procedures).
- **Monitoring-** The employer must conduct air monitoring sampling or tests to determine levels of airborne asbestos in all workplaces that contain either asbestos-containing products or presumed asbestos-containing products. In addition, the employer must notify the affected workers in writing or by posting the monitoring results in an appropriate and accessible location (e.g., an employee bulletin board) within fifteen days of receipt of the results. Workers must be allowed access to any record concerning their exposure to asbestos. The employer must keep records of asbestos exposures for at least 30 years.

- **Medical Surveillance-** Employers must institute a medical surveillance program for all workers who are exposed to airborne asbestos concentrations at or above either the standard's time-weighted average (TWA) or excursion limits. Pre-placement medical exams must be provided affected workers before they are assigned to perform work in areas where levels of airborne asbestos fibers have been identified at or above the standard's TWA or excursion limits. In addition, follow-up medical examination must be provided annually. Medical examinations must also be provided affected workers within 30 calendar days before or after the termination of employment. The above asbestos medical exams must include a medical and work history, chest x-ray, and lung function tests.

Further, employers must keep workers' medical records for at least 30 years. Employees or former employees have the right to request that her/his medical records be made available to other doctors. Workers who change jobs should inform their doctor about their exposure to asbestos.

- **Personal Protective Equipment-** When airborne asbestos exceeds the OSHA standard or excursion limit, the employer must provide workers with personal protective equipment such as clothing, gloves, gauntlets, boots, head and foot coverings, and, where necessary, air-supplied respirators. The employer is also responsible for cleaning, maintaining, and disposing of all personal protective equipment.

CWA members who regularly work at a single location where they are exposed to excessive amounts of asbestos must be provided with change rooms. These must have two separated lockers or containers - - one for street clothes and one for protective clothes - - for each worker. Shower facilities must also be provided. Workers should shower at the end of each shift.

- **Training and Information-** Employers must develop and provide an asbestos training and information program to all workers who are exposed at or above the Asbestos Standard's permissible exposure and/or excursion limits. This program should include the toxicity of and health effects related to asbestos exposure; engineering controls and work practices; protective measures such as appropriate work practices, emergency and clean-up procedures, and personal protective equipment; the medical surveillance program; and a copy of the OSHA Asbestos Standard.

What Can You Do?

All CWA members should make sure that their employer is maintaining a safe and healthful workplace. The key to making the workplace safe for all CWA members is strong, active local safety and health committees. The committee can identify dangerous conditions at the workplace and discuss them with management. If the employer refuses to resolve the safety and health hazard(s), the committee can request an OSHA inspection. The committee should always coordinate its activities through the local officers, the CWA Representatives, and negotiated safety and health committees.

In addition, CWA members may obtain information and assistance by contacting the:
CWA Occupational Safety and Health Department
501 Third Street, N.W.
Washington, D.C. 20001-2797
Webpage: www.cwasafetyandhealth.org
Phone: (202) 434-1160.

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