

## Safety Manual Chapter 18

### Asbestos - Issue Date 12/97

#### Employees' Response procedure

- If you feel that you have been exposed to asbestos, contact your supervisor.
- If you have a question concerning asbestos in the workplace, call Facilities Planning and Management for an answer.
- If you feel that all avenues have been covered and the condition needs addressed, call Environmental Health and Safety.

**18-1.1** From the time of the Greeks and Romans in the first century until its re-emergence in the eighteenth century, asbestos received little attention or use. It was not available in large amounts until extensive deposits were discovered in Canada in the nineteenth century (late 1800's.) Following this discovery, asbestos emerged as an insulating component in thermalinsulation for boilers, pipes, and other high temperature applications and as a reinforcement material for a variety of products.

Asbestos is a naturally occurring mineral. It is distinguished from other minerals by the fact that its crystals form into long, thin fibers. Deposits of asbestos are found throughout the world. The primary sites of commercial production are: Canada, the Soviet Union, and south Africa. Asbestos is also mined commercially in the United States.

Asbestos minerals are divided into two groups-- serpentine and amphibole. The distinction between groups is based upon its crystalline structure-- serpentine minerals have a sheet or layered structure; amphiboles have a chain-like crystal structure.

**18-1.2** In the past, asbestos was used for thermal or acoustical insulation, fire protection, decoration, and the reinforcement of building products and materials. Asbestos has been used in flooring materials, patching compounds and textured paints, walls and ceilings, appliances, furnaces, and roofing and siding.

**18-1.3** A comprehensive asbestos identification survey was conducted of all major campus buildings utilizing the services of a building inspection. The results of the survey of the University was used to identify and properly assist the condition of the asbestos containing materials throughout the campus.

**18-1.4** Principally, as a result of this survey, the University has initiated a set of activities and procedures to reduce or eliminate exposure of building occupants to asbestos. The procedure, including analytical method, if appropriate, used to detect the presence of asbestos material: Random Sampling with analyzing done at laboratories using a Polarized Light Microscopy (PLM).

**18-1.5** The program currently in effect is specifically designed to reduce asbestos exposure to the campus community through encapsulation, repair, or removal. All major asbestos abatement projects on campus will be performed by qualified outside contractors with strict adherence to federal and state regulations.

**18-1.6** Control strategies currently being stressed for service and maintenance personnel:

- **18-1.6a** Do not damage or disturb asbestos-containing material if it is in good condition.
- **18-1.6b** Do not dust, sweep, or vacuum particles suspected of containing asbestos. These cleaning methods could generate airborne fibers. Asbestos fibers are microscopic and can easily pass through regular vacuum cleaner filters and re-enter the air. All particles should be removed by wet wiping methods or by specially designed HEPA (high efficiency particulate air filter) vacuum cleaners.
- **18-1.6c** Removal should be done by trained employees. Do not unnecessarily remove asbestos insulation from basement pipes or boilers. The work will be done only with proper removal procedures.
- **18-1.6d** Seek advice from the Facilities, Planning and Management if the asbestos- containing material is damaged or deteriorating.

- **18-1.6e** Personal protective equipment should be worn when handling asbestos-containing materials. Such equipment includes respirators approved for asbestos work by the National Institute for Occupational Safety and Health (NIOSH) and disposable protective coveralls, gloves, and head coverings.
- **18-1.6f** Wetting methods should be used when handling asbestos-containing materials. These methods will reduce airborne fibers. Wet fibers do not remain suspended in the air as readily as dry fibers. A hand or garden-type sprayer can be used to thoroughly dampen the material. Adding a small amount (approximately one teaspoon to one quart) of soap sudsing detergent will improve the penetration of the water and reduce the amount of water needed.
- **18-1.6g** Avoid sanding, sawing, cutting, or drilling the asbestos-containing materials. Those disturbances will generate airborne fibers.
- **18-1.6h** Asbestos-containing sheet products should be wetted and, if possible, cut or drilled outside.
- **18-1.6i** Asbestos-containing material, debris from the work area, and disposable protective clothing should be disposed of in double-lined plastic trash bags. The bags will be properly disposed of by appropriate Physical Plant personnel.
- **18-1.6j** The work area will be thoroughly cleaned with wet mops, wet rags, and a HEPA vacuum after the asbestos-containing material has been completely removed from the work area. Wet cleaning will reduce the spread of residual fibers. Cleaning should be done with one-way motions to avoid smearing residual fibers on surfaces. Dispose of mop heads, rags, and other cleaning devices in the plastic trash bags that contain the asbestos-containing materials. Thoroughly flush and clean all buckets and basins.