



# Safe Operating Procedure

(Revised 10/22)

## ASBETOS FACTS

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### **Purpose**

This SOP is intended to provide general awareness information to the campus community on the presence and hazards of asbestos-containing materials.

### **Scope**

This SOP is only intended to provide an introductory level awareness training to individuals on campus who may encounter asbestos in UNL buildings. The information provided in this SOP does not provide the training or knowledge to actively disturb or remediate asbestos containing materials.

### **What is asbestos?**

Asbestos is a naturally occurring mineral that is mined from the earth. Asbestos deposits are found throughout the world, but the primary sites for commercial mining are in Russia, Kazakhstan, China, Brazil and Zimbabwe. Asbestos fibers are created by processing asbestos-containing rock. The fibers are then mixed with a binder or into a matrix and manufactured into various building materials and other articles.

### **When was asbestos used and what was it used for?**

Historically, asbestos was used in thousands of products, many of which were building materials such as wire insulation, thermal system insulation, decorative finishes (e.g., ceiling texture), wallboard, vinyl flooring, mastics, sealants, laboratory countertops, ceiling tiles, roofing materials, and siding. Asbestos was used in other products as well, such as fire/theater curtains, fire doors, thermal gloves, fire clothing, heating mantles, ovens, and electric motors.

Height of production and use occurred from the 1940s through the 1970s. Use of asbestos in products greatly decreased in the 1970s as various bans took effect in the United States. However, only certain uses of asbestos were banned. While commercial mining of asbestos ceased in the United States in 2002, asbestos and asbestos-containing materials are still imported into the United States. The most prevalent uses today include automobile clutches and brake pads, gaskets, cement pipe and corrugated or flat sheeting, roofing materials (primarily sealants), and vinyl floor tile.

Although certain uses were banned in the 1970s and 1980s, the bans did not require existing asbestos-containing materials to be removed. Therefore, it is common for older buildings to still contain asbestos. In addition, asbestos has been found to be a contaminant in certain products produced through the 1990s such as vermiculite potting soil and vermiculite home insulation. Some building products containing asbestos are still used today and can be found in newer buildings (primarily vinyl flooring and roofing products).

## How can a person be exposed to asbestos?

The primary route of exposure is inhalation of asbestos fibers. The mere presence of an asbestos-containing material is not of concern because the fibers are held tightly by the matrix/binding agent used to create the asbestos-containing material. The fibers break loose and become airborne only when an asbestos-containing material is disturbed or damaged. Some asbestos-containing materials are easier to damage than others.

A material that will release asbestos fibers only under extreme force (e.g., sanding, cutting, grinding, etc.) is called “non-friable” and poses a risk of exposure only when subjected to strong force. Examples of “non-friable” asbestos-containing building materials include floor tiles, siding, and roofing materials. A material that will release asbestos fibers with slight force (e.g., hand pressure) is called “friable.” These materials pose the greatest risk of exposure, but only when damaged. Examples of friable building materials include pipe insulation and ceiling texture.

## What are the health hazards of exposure to asbestos?

Lung diseases are the primary health hazards of exposure to asbestos, including asbestosis, lung cancer, and mesothelioma. Asbestosis is a disease characterized by lung scarring which reduces lung elasticity and increases breathing difficulty. Mesothelioma is a form of cancer that occurs in the chest cavity lining (pleura). Generally, disease from exposure to asbestos occurs many years after exposure (e.g., 10 - 40 years).

## Who is at risk for an asbestos-related illness?

Everyone is exposed to asbestos at some time during their life. Low levels of asbestos are present in the air, water, and soil. However, most people do not become ill from their exposure. People who become ill from asbestos are usually those who are exposed to it on a regular basis, most often in a job where they work directly with the material or through substantial environmental contact. Since the early 1940s, millions of American workers have been exposed to asbestos. Health hazards from asbestos fibers have been recognized in workers exposed in the shipbuilding trades, asbestos mining and milling, manufacturing of asbestos textiles and other asbestos products, insulation work in the construction and building trades, and a variety of other trades. Cases of mesothelioma have also been seen in individuals without occupational asbestos exposure who live close to asbestos mines.

## How are building occupants protected?

Asbestos-containing materials in UNL buildings are monitored to ensure that they remain in good condition, and are removed when they begin to show signs of deterioration or when they could be disturbed by a renovation, repair, maintenance, or demolition project. Removal of asbestos-containing materials is done by licensed individuals and in accordance with regulatory requirements that specify certain work practices to prevent asbestos fibers from leaving the designated work area. These designated work areas are isolated from adjacent spaces and are clearly marked. The warning signs are primarily to alert asbestos workers of the hazards within the work zone and to warn non-asbestos workers to refrain from entering a work zone.

Often, portable exhaust units are used to mechanically separate the work zone from adjacent areas. These units create a negative air pressure between the work zone and adjacent areas by drawing air from outside of the work zone. After the air has moved into the regulated area it passes through a HEPA filter to remove asbestos fibers before the air is exhausted.

During floor tile removal projects, odors may be noticed. These odors are from the solvents used to remove the mastic and are typically of nuisance-type with little potential for adverse health effects. Sometimes the odors are musty in nature and may be similar to wet drywall or carpeting. These odors occur because most asbestos removal projects are conducted under wet conditions to minimize potential for fibers to become airborne. Odors may also be present during the removal of thermal system insulation. These odors occur during the removal process as a sealant is sprayed onto the piping after the asbestos insulation has been removed. These odors are typically associated with a “spray paint” like odor and are also typically nuisance-type odors.

### **What can building occupants do to protect themselves?**

The most important thing that a building occupant can do to prevent exposures is to refrain from any activity that could disturb asbestos-containing materials.

- Do not cut, drill, screw, sand, chisel, or hammer on countertops, fire doors, floors, ceilings, plaster walls, mortars, joint compounds, gaskets, roofing materials, and other building materials that may contain asbestos.
- Do not move, remove, replace, or clean ceiling tiles or access plenums above dropped ceilings.
- Do not remove, repair, or otherwise contact damaged pipe or boiler insulation.
- Do not handle or disturb vermiculite insulation.
- Do not vacuum, sweep, or otherwise attempt to clean-up damaged building debris that may contain asbestos.
- Do not enter any designated work area that is placarded with a sign indicating that an asbestos remediation project is in progress.
- Do not attempt to remove, repair, or replace gaskets.
- Report potential damage to building materials that may contain asbestos to the Facilities Service Desk (402-472-1550).
- Contact EHS to evaluate appliances and equipment (e.g., ovens, heating mantles, fume hoods) or other items (thermal gloves, fire curtains, etc.) that may contain asbestos before dismantling or discarding.