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Guide to Handling, Disposing and Recycling Asbestos

The best way to handle, dispose of and recycle asbestos is to hire licensed asbestos abatement professionals. Learn more about how asbestos is recycled and how professionals safely handle and dispose of asbestos-containing materials.

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Why It's Important to Handle Asbestos Safely

Improper handling of asbestos-containing materials puts workers and the general public at risk of developing asbestos-related diseases such as [mesothelioma cancer](#), lung cancer and asbestosis.

The risk of developing one of these diseases increases with every exposure to asbestos.

Unfortunately, [mesothelioma specialists](#) haven't found a cure for mesothelioma or any other asbestos-related diseases. That's why strict regulations on the handling and disposing of asbestos-containing materials have become law.

These regulations aim to prevent workers and the general public from exposure to asbestos. Large

...regulations and the penalties that are in place for those who violate asbestos laws.

Fines and penalties deter do-it-yourselfers from performing asbestos abatement projects that should be carried out by a professional. They also incentivize building owners and abatement companies to follow regulations that exist to preserve public health.

How to Handle and Dispose of Asbestos

The first and most important thing to know about handling and disposing of asbestos is that you should not do it yourself. Asbestos is a deadly carcinogen that should only be handled by licensed asbestos abatement professionals.

While you can find information online about do-it-yourself asbestos abatement, it is highly recommended that you do not attempt to disturb asbestos-containing materials in any way.

If you find friable asbestos products in your home, you may carefully wet them to prevent them from releasing fibers until you can get a licensed professional to assess your home.

These professionals are highly trained and certified to follow all federal and state laws governing asbestos abatement and disposal. If you don't hire a professional, you are likely to break one of the many laws that regulate asbestos, and you run the risk of facing a serious fine or penalty.

HANDLING AND DISPOSING OF ASBESTOS REGULATIONS INCLUDE:

- **Planning the Project Appropriately:** Licensed professionals know how to assess the size and severity of the abatement project. This matters a lot to local officials who supply permits for different types of asbestos-abatement projects.
- **Preparing the Work Area:** The work area must be sealed off with plastic sheeting and negative air pressure units must be used to prevent contamination outside the work area. Surfaces that don't need abating must be covered in plastic sheeting. Warning signs must be posted to alert others that an asbestos project is underway

Ensure that an asbestos project is underway.

- **Wearing Personal Safety Protection:** Workers must wear an N-100 or P-100 respirator and protective clothing to prevent [asbestos exposure](#).
- **Safety Protocols in the Work Area:** HVAC systems must be disabled to prevent circulation of asbestos fibers. Workers should use wet wipes or a HEPA vacuum to clean asbestos off immovable objects to control dust. A HEPA vacuum is used to clean up the area when the abatement is finished.
- **How to Handle and Dispose of Asbestos Waste:** Asbestos-containing materials are wetted prior to any removal efforts. Workers must be wearing a respirator and personal safety protection as they work with contaminated materials. All asbestos waste generated during the project must be wetted before it is double bagged in 6-millimeter plastic bags and enclosed in a plastic, leak-tight container with a lid and proper labeling. It can only be disposed of in special landfills that are designated to receive asbestos waste.
- **Creating Decontamination Units:** Decontamination enclosure systems must be installed to allow workers to remove contaminated clothing, shoes and tools.
- **Following Decontamination Procedures:** Professionals must follow specific steps to safely remove contaminated protective clothing and equipment. These procedures ensure worker safety and prevent workers from tracking asbestos into their homes.





How Is Asbestos Recycled?

When recycling asbestos, microwave thermal treatments or milling it at high speed heats the substance, creating non-hazardous materials such as glass or porcelain. Relatively recent private sector and U.S. Department of Energy developments in technology make it possible to transform asbestos products into nontoxic materials, but the process is complex and expensive.

SEVERAL METHODS EXIST FOR RECYCLING ASBESTOS:

- The most established method heats asbestos-containing materials in a sodium hydroxide solution above 1,250 degrees Celsius to break down asbestos. The process results in thermal decomposition of asbestos fibers and produces a type of nonhazardous glass. The glass can be used to create ceramic and stoneware products or it can be used as aggregate for roadways and concrete.
- Another method uses a microwave thermal treatment to turn asbestos into ceramic bricks or porcelain tiles.
- A third method uses a high-speed milling process to break asbestos fibers down into nonhazardous inert minerals.

Some of these methods reduce the volume of asbestos waste by 50% to 99.7%, depending upon the type of product being recycled. This reduction in volume is beneficial for landfills and it reduces the cost of dumping asbestos because disposal pricing is based on volume.

The nonhazardous end products of these recycling methods are either delivered to a regular landfill or they can be used in construction materials, as packing material or as concrete aggregate.

Benefits of Recycling Asbestos Materials

- **Permanent Solution:** The recycling process destroys asbestos fibers and converts them into a nonhazardous substance.
- **Reusable Products:** The end products can be used in a variety of applications.
- **Reduces Waste:** The process reduces the volume of asbestos-containing materials significantly, which saves precious space in landfills.
- **Prevents Asbestos from Going to Landfills:** The recycling process prevents the dumping of asbestos products into landfills, which protects landfill workers from exposure.
- **Offsets Costs of Abatement:** Recycling asbestos can offset the cost of abatement by producing material that can be safely used rather than paying a high price for dumping hazardous waste.
- **Removes Asbestos from the Waste Stream:** Transforming asbestos into nonhazardous substances is the morally responsible action to prevent future asbestos-related diseases.

Currently, the cost of recycling asbestos is about three times that of traditional disposal in special landfills designated to receive asbestos waste. Some of the cost may be recouped by selling the nonhazardous end products.

In the U.S., asbestos recycling is not available to the general public. The Department of Defense has recycled asbestos-containing materials at the Savannah River Site in Aiken, South Carolina. Private companies around the world are working on developing and refining asbestos recycling technologies with the goal of making it more affordable in the near future.

While it may not be an affordable option in most applications, asbestos recycling is a safer way to dispose of asbestos-containing materials. The availability of regulated disposal sites is dwindling in the U.S., which means asbestos recycling will soon become increasingly important.

As technology improves and landfill space continues to diminish, asbestos recycling will become a viable and ethical way to deal with the legacy of asbestos products.



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Improper Asbestos Abatement and Disposal

Asbestos abatement projects that are executed improperly face serious fines and penalties, including the possibility of incarceration and probation.

The U.S. Environmental Protection Agency requires certain practices for the demolition of asbestos-containing buildings to prevent exposing workers and the public to asbestos. These practices involve creating a thorough plan on how to safely remove the asbestos, using water and other methods to prevent the release of [asbestos fibers](#) during and after demolition, and following proper disposal requirements.



Violating any of these regulations may result in substantial fines and penalties. For example:

- In late 2019, unlicensed laborers without a permit carried out improper asbestos removal at the village hall in the Village of Hazel Crest, Illinois. The workers removed carpeting that may have released asbestos fibers and removed window caulking that contained friable asbestos. They dumped the asbestos waste into a dumpster without bagging, sealing or labeling the waste. Two companies were involved in the project, and they face fines from \$1,900 to \$31,000.
- In February 2019, an experienced contractor and housing inspector from Iowa was sentenced to two years of probation and fined \$10,000 for improper removal of asbestos in a home he purchased with the intention of renovating it into an apartment building. The contractor failed to inspect the home for asbestos, hired workers who were not licensed in asbestos abatement and failed to report the asbestos abatement project to the Iowa Department of Natural Resources.
- In 2014, the Washington State Department of Labor & Industries cited two companies for 19

safety and health violations involving asbestos exposure during the demolition of a Seattle apartment building. Violations included exposing workers to asbestos, leaving asbestos debris on site and other violations that occurred during the demolition. The building contained asbestos in popcorn ceilings and sheet vinyl flooring. The violations triggered fines reaching \$379,100.

How to Identify and Protect Your Family from Asbestos

Learning about [asbestos products](#) that may be common in homes and schools can help you protect your family from asbestos exposure. This will also help your family members learn to recognize and avoid waste that was improperly dumped that may contain asbestos.

There is no way to visually know if a product contains asbestos. The best practice is to learn about the products that are likely to contain asbestos and treat them as if they do, until you have them tested.

When people rent or purchase a new home that was constructed before the 1990s, it is likely to contain asbestos products. Even new homes built today may contain asbestos in roofing and flooring materials, cement shingles, millboard and corrugated sheets.

OLDER ASBESTOS-CONTAINING PRODUCTS CAN INCLUDE:

- Insulation
- Flooring materials
- Ceiling materials
- Roofing materials
- Adhesives
- HVAC ductwork
- Electrical components

- Drywall
- Shingles and siding
- Plumbing
- Fireplace materials

How to Report Improper Abatement

If you rent a home or an apartment and believe improper asbestos abatement has taken place, you have a right to report it to the U.S. Environmental Protection Agency, the Occupational Safety and Health Administration and your county and/or state's department of environmental quality.

- Report violations to the U.S. Environmental Protection Agency through its [website](#).
- Report violations to the Occupational Safety and Health Administration by contacting the nearest office to you, or call 1-800-321-OSHA.
- Search online to find contact information for your state or county's department of environmental quality to report violations to local authorities.



Regulations on Asbestos Handling and Disposal

The following federal laws and government agencies are responsible for establishing regulations involving the handling and disposal of asbestos.

Federal Laws

- **Clean Air Act of 1970:** This act established asbestos as a hazardous air pollutant. Amendments to the act ordered the U.S. Environmental Protection Agency to set safety standards for asbestos.
- **Toxic Substances Control Act of 1976:** This act gave the U.S. Environmental Protection Agency the power to regulate asbestos.
- **Asbestos National Emission Standards for Hazardous Air Pollutants:** The Clean Air Act required the U.S. Environmental Protection Agency to establish these standards. They include regulations on how to handle and dispose of asbestos materials during demolition and renovation of any building or structure.
- **Asbestos Hazard Emergency Response Act of 1986 and the Asbestos School Hazard Abatement Reauthorization Act:** These acts set standards for how to monitor, handle and dispose of asbestos materials in schools.
- **Occupational Safety and Health Administration's Construction Standards:** Established rules, regulations and standards for the handling and disposal of asbestos-containing materials at construction sites.
- **Occupational Safety and Health Administration's General Industry Standards:** Established rules, regulations and standards for the handling and disposal of asbestos in most occupations. The administration also has separate standards for maritime occupations, including shipyard workers.

Agencies that Determine and Oversee Asbestos Regulations

Two primary government agencies are responsible for setting and enforcing asbestos regulations.

- **U.S. Environmental Protection Agency:** This agency provides information to the public about asbestos and sets rules and regulations for asbestos products, abatement and licensing professionals. The agency has [officials in each state](#) who oversee their state's asbestos program.
 - **Occupational Safety and Health Administration:** Sets national standards for the handling and removal of asbestos in occupational settings and disposal of asbestos materials in shipyards and construction sites. There are [28 states](#) that have implemented standards of their own, which are approved by the administration, and they often include stricter regulations.
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Resources on Handling and Disposing of Asbestos

Check national and local government websites as well as guides universities and other institutions publish for resources on handling and disposing of asbestos. These include the U.S. Environmental Protection Agency and the Occupational Safety and Health Administration.

You can review the following resources on handling and disposing of asbestos to learn more about how to protect yourself and your loved ones:

- [U.S. Environmental Protection Agency](#)
- [Occupational Safety and Health Administration](#)
- [Missouri Department of Natural Resources: How to Handle Asbestos-Containing Debris](#)
- [Penn Medicine's Abramson Cancer Center: Asbestos Abatement](#)
- [National Institutes of Health: Homeowner's and Renter's Guide to Asbestos Cleanup After Disasters](#)
- [Safewise: How to Deal with Asbestos in Your Home](#)