

NJ DEPT. OF HEALTH
& SENIOR SERVICES

ASBESTOS

A GUIDE FOR NEW JERSEY RESIDENTS



WHAT YOU NEED TO KNOW ABOUT ASBESTOS...

- What is asbestos?
- How was it used?
- What are the health effects of asbestos exposure?
- What can be done about it?
- How can asbestos be disposed of?
- Who do you contact?



New jersey Department of Heal th & senior services
Consumer and Environmental Heal th Services

Indoor Environments Program

PO Box 369

Trenton, NJ 08625-0369

Tel ephone: 609-631-6749

Fax: 609-588-7618

Website: www.state.nj.us/health/eoh/tsrp



TABLE OF CONTENTS

What is asbestos	1
How was asbestos used	2
Asbestos-related diseases.....	3
Identifying asbestos	5
Where can asbestos be found?	6
Wasn't asbestos banned?	12
I think I have asbestos, now what?.....	12
Confirming the presence of asbestos.....	13
Solving an asbestos problem	14
Tips for hiring a competent contractor.....	17
Disposal of asbestos waste.....	17
Who to contact: State agencies	18
Who to contact: Federal agencies.....	19

What is Asbestos?

Asbestos Fact

Asbestos is a naturally occurring silicate mineral.

ABOUT ASBESTOS...

Asbestos is a group of naturally occurring silicate minerals. Mined and milled from native rock, asbestos is fibrous, thin, and strong. Chrysotile (white asbestos), amosite (brown asbestos), and crocidolite (blue asbestos), are the most common types of asbestos minerals. Rarer forms are tremolite, anthophyllite, and actinolite. Only chrysotile, crocidolite, and amosite varieties are of industrial importance. Chrysotile fibers are pliable and cylindrical and are often arranged in bundles. Amosite and crocidolite fibers are like tiny needles.

Asbestos is mined from the ground usually by opencast method (open mine as opposed to an underground mine). The raw material is very coarse and looks much like old wood. The raw material is then processed and refined into fluffy fibers. The fibers are then added to some form of binding agent, like cement, to form an asbestos containing material.

ARE SOME TYPES OF ASBESTOS MORE DANGEROUS THAN OTHERS?

There have been more cases of Mesothelioma and cancer amongst people working with Crocidolite than other types of asbestos. However, with the exception of Chrysotile, all forms of asbestos are of the same mineralogical family called Amphiboles. Even though there appear to be fewer incidence of disease in workers who dealt only with Chrysotile, all asbestos forms are believed to carry similar risks.

HOW LONG HAS ASBESTOS BEEN USED?

Asbestos was first used in the United States in the early 1900's to insulate steam engines. But until the early 1940's, asbestos was not used extensively. However, after World War II, and for the next thirty years, people who constructed and renovated homes, schools and public buildings used asbestos and asbestos-containing materials (ACM) in much of the construction. ACM was primarily used to fire-proof, insulate, soundproof and decorate.



Asbestos Fact

Asbestos can withstand extremely high temperatures

How was Asbestos used?

WHY HAS ASBESTOS BEEN SO WIDELY USED?

Asbestos appealed to manufacturers and builders for a variety of reasons. Characteristics, like heat resistance, chemical inertness, and insulating capacity, coupled with the flexibility to be woven, make asbestos suitable for use in many industrial applications. It is strong yet flexible and it will not burn. It does not conduct electricity well, but insulates effectively. It also resists corrosion. Asbestos has been widely used because few other available substances combine the same qualities.

HOUSEHOLD PRODUCTS WHICH COULD CONTAIN ASBESTOS

It has been estimated that 3,000 different types of commercial products contained asbestos. In homes built prior to 1978, asbestos is most commonly found as thermal insulation on basement boilers and pipes. Unfortunately, it can also be found in a myriad of other household materials. Following is a partial list of products manufactured to contain asbestos:



- Vinyl floor tiles (usually 9" X 9")
- Some forms of linoleum
- Glue that attaches floor tiles to concrete or wood
- Pipe and boiler insulation
- Window caulking or glazing
- HVAC duct insulation (usually found in corrugated or flat paper form)
- Fiber cement siding (usually 1/8" thick and 8'X4', and brittle)
- Corrugated heavy duty panels
- Roofing and siding materials
- Blown-in attic insulation

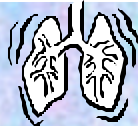


Asbestos-related disease

HOW CAN ASBESTOS AFFECT MY HEALTH?

A single asbestos fiber is invisible to the human eye. One asbestos fiber magnified 1,000 times looks slightly larger than a strand of human hair. Because the fibers are light, they can float in the air for a long time.

When a person breathes where there is asbestos in the air, these fibers can get into their lungs and lodge in tiny air sacs which oxygenate the blood. Over time scar tissue is formed around the imbedded, indestructible fibers. Enough scar tissue will result in breathing problems and possibly cancer.



Asbestos Fact

In most cases, asbestos-related diseases develop 20 to 40 years after exposure.

ASBESTOS-RELATED DISEASES

Information on the health effects related to asbestos exposure comes mostly from studies of people with **long-term** exposure to asbestos in the workplace.

Lung Cancer

Asbestos is a carcinogen (a material known to cause cancer). People who have had regular asbestos exposures have a high rate of **lung cancer**. Lung cancer tends to develop 15 to 35 years after the first exposure.

Mesothelioma

Mesothelioma is a cancer that develops in the thin membrane lining the chest and abdominal cavity. It is directly linked to exposure to asbestos. Mesothelioma may not appear until 40 years after exposure and is usually fatal.

Asbestos Fact

The greater the exposure to asbestos, the greater the risk of developing an asbestos-related disease.

Asbestosis

Asbestos workers who breathe in asbestos may develop a slow build-up of scar-like tissue in the lungs called **asbestosis**. This scarred tissue impairs the ability of the lungs and heart to adequately provide oxygen to the body. This is a serious disease which may take 20 to 30 years to develop, and can eventually lead to disability or death in people exposed to high amounts of asbestos.

Pleural Plaques

All forms of asbestos can cause a variety of non-malignant pleural conditions. The pleura is the chest cavity (place where the lungs sit). A thickening of the pleura can occur which can impair lung function. **Pleural plaques** (a gelatinous substance) can occur about 15 years after being exposed to airborne asbestos fibers.

Gastrointestinal and Other Cancers

The digestive system can also be at risk for developing cancer following the ingestion of asbestos. Cancer of the esophagus, stomach, colon, and rectum have been associated with asbestos.

Asbestos Fact

Smokers who work with asbestos are up to 92 times more likely to develop lung cancer than non-smokers.



WARNING TO SMOKERS

If you smoke and are around asbestos, your risk for developing lung cancer is much higher than someone who doesn't smoke and is exposed to asbestos.

Smoking significantly reduces the lungs' ability to rid themselves of asbestos fibers. This increases the amount of fibers which lodge in the lungs, which, in turn, increases the risk of lung cancer. To reduce your chances of reducing lung cancer, stop smoking.

IDENTIFYING Asbestos?


If you suspect that a product contains asbestos, treat it as if it does until you know otherwise



HOW CAN I KNOW IF A SOMETHING CONTAINS ASBESTOS?

Many products and building materials contain asbestos and millions of homes built prior to 1978 contain asbestos materials. Unless the material is labeled as asbestos, no one can tell if it is asbestos-containing by examining it without the aid of a microscope. Even an expert can not give you a definite answer until a sample of the material is analyzed.

To determine the presence of asbestos, it is recommended that a sample of the material be taken to a laboratory that is accredited by either the American Industrial Hygiene Association (call 703-849-8888 or go to www.aiha.org/LaboratoryServices/html/asb.htm on the web) or the National Voluntary Laboratory Accreditation Program (call 301-975-4016 or go to <http://ts.nist.gov/ts/htdocs/210/214/scopes/programs.htm?> on the web).



Do I have to remove the asbestos?

There are no state or federal laws that require you to remove asbestos in your home.

Most of the time, asbestos in the home is not hazardous. If you never disturb these materials, you may be able to leave them alone. But if you know that a needed repair or renovation will disturb the material, you may want to start planning with a consultant to abate the asbestos during the project.

Due to the hazards associated with disturbing asbestos-containing materials, removing it is not a do-it-yourself project. You should hire an asbestos professional to do the job.

WHERE CAN Asbestos BE FOUND?

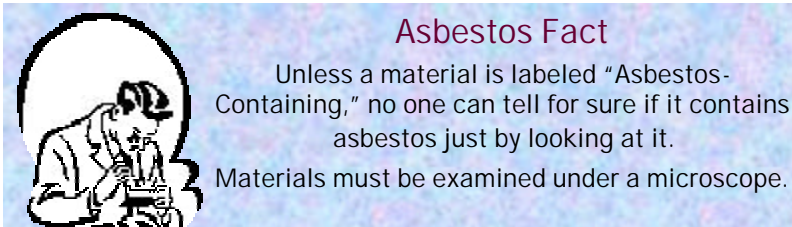
Furnaces and stoves

Different types of asbestos-containing materials have been used on furnaces for insulation. Asbestos furnace cement is often white or grey with a smooth and chalky surface. This type of material is generally found in older homes that were built after 1920. This material should not be disturbed. If the material is in good condition, leave it alone. This type of asbestos is often friable.

"FRIABLE" means asbestos-containing materials which can be easily crumbled by hand pressure.

Ducts and water heaters

Asbestos paper was used to wrap ducts on furnaces and water heaters. Older furnaces also used asbestos-containing hot-air duct connectors that are shaped like accordion pleats. These products may release asbestos fibers if they have been subject to a lot of wear.



Cement sheeting and millboard

Since the mid-1920s to the present, asbestos cement sheeting and millboard has been in use. These forms of asbestos-containing materials were used for protecting floors and walls around wood and coal-burning stoves.

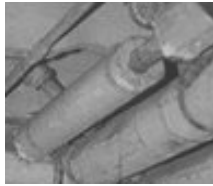
"Non-FRIABLE" means asbestos-containing materials which cannot be easily crumbled by hand pressure.

Cement sheeting is generally considered *non-friable* and will not readily release asbestos fibers unless it is sawn, scraped sanded or in some way crushed. Millboard, however, presents a greater risk of fiber release because it is *friable*.

Door Gaskets

Door gaskets used on furnaces and wood and coal-burning stoves may contain asbestos. These door seals were manufactured between 1940 and the early 1980s. Under normal use, they will wear out. Try to reduce contact with the gaskets and replace them before they become worn.

Pipes



Asbestos was often used as pipe insulation on hot water pipes to prevent heat loss and to keep the heat from damaging walls or burning someone. Pipes with this kind of covering are usually found in the basement, but can also be found in bathrooms, kitchens, closets, and near washing and drying machines. This insulation

was primarily used between 1920 and the mid-1970s.

This type of insulation is either white and chalky cement and is wrapped with a thin canvas covering. Another type of thermal asbestos insulation resembles grey corrugated cardboard and is wrapped around the pipe or ductwork. Both of these types of materials are considered friable and will crumble easily if they are disturbed or damaged.

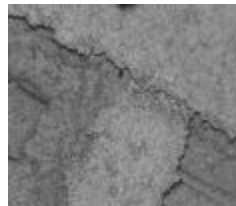
Wall and Ceiling Materials



Trowelled on asbestos

Homes built between 1930 and 1950 may have wall and ceiling materials that contain asbestos. Builders sprayed or trowelled this material on.


← *The surface texture of trowelled on materials is rough and grainy.*



Sprayed on asbestos

The surface of sprayed-on asbestos is light and fluffy or thick and very lumpy. →

Water leaks or constant vibrations from air conditioning or heating systems can make these surfaces loose and crumbly.



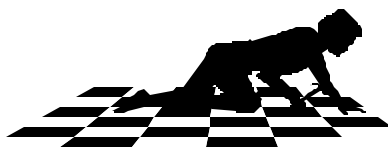
If you are planning a renovation or home improvement...

Stop! To ensure you don't disturb asbestos, you should test any materials you suspect might contain asbestos. Materials that contain asbestos should be removed by a professional asbestos abatement contractor.

Vinyl Floor Tiles and Sheet Flooring

Asbestos has been used in vinyl floor tiles (generally 9'X9' and occasionally in 12'X12' tiles), the backing of vinyl sheet flooring, and in some mastics used to glue the tiling down. The only way to tell for sure if something contains asbestos is to have it analyzed by a laboratory.

The asbestos in these tiles is tightly bound in the matrix of the tile and won't release fibers easily. Don't scrape, sand, or cut these tiles. If the floor is old and worn, it is safer, easier and more economical to cover the tile rather than remove it.



To find out more information on how to handle vinyl asbestos floor tile, contact the Resilient Floor Covering Institute for a copy of "Recommended Work

Procedures for Resilient Floor Coverings". Single copies of the brochure can be requested free of charge, via mail at: RFCI, 401 East Jefferson Street, Suite 102, Rockville, MD 20850; or by fax at 301-340-7283.

You can also download a copy at their website:

www.rfci.com/removal.htm

Patching Compounds and Textured Paints

Drywall patching compounds, commonly known as spackle, which was manufactured before 1978, usually contained asbestos.

Textured paint used for decorative purposes once contained asbestos. If this popcorn type material was applied before 1980 it should be tested for asbestos.

As long as materials are in good repair they can be left alone.

To prevent the release of fibers, do not sand, scrape, drill, or cut any surface which contains asbestos. Should materials be disturbed, immediately soak thoroughly with water and a little bit of liquid soap (to help the water penetrate the asbestos better). Contact an asbestos professional for removal and cleanup.




Roofing, Shingles and Siding

Roofing and siding manufactures often combined asbestos with cement to make their products more durable. Following are some examples of asbestos-containing roofing and siding materials:

- ? Roof felt
- ? Rigid panels
- ? Tiles
- ? Shingles
- ? Mastics

Roofing felt, or asbestos paper covered and saturated with asphalt, has been in use since about 1910. Asbestos-containing siding/shingles, have been in use since 1940 are hard and usually light green, beige, or a grayish-white color. The asbestos fibers in these shingles are tightly bonded to the tile matrix and aren't considered friable. They won't readily release fibers unless they are cut, sawn, drilled, broken, or sanded. If siding shows signs of damage or wear, a coat of spray paint can help lock the fibers.

When disposing asbestos-containing roofing and siding, you must contact the Department of Environmental Protection at 609-984-6985 to determine the requirements for disposing of these materials.



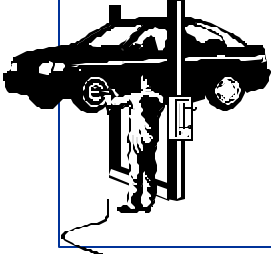
New Jersey Removal requirements...

Except for demolition projects, New Jersey regulations do not apply to the application, enclosure, encapsulation, or removal of asbestos-containing roofing and siding materials. However, all asbestos waste, including roofing and siding materials, must be disposed of properly.

Brakes and Clutches

While most modern vehicles use asbestos-free parts, there is asbestos in brakes, clutches and gaskets of many older or imported vehicles. Asbestos is still widely used in some gaskets, particularly where heat can be a problem such as in engine heads and vehicle exhaust manifolds.

Anybody who works with brakes, clutches or replaces gaskets knows dust is always present. The dust from wear and tear on brakes and clutches, which is generated when gaskets are removed, can be a serious health hazard if it contains asbestos fibers.



Brakes and clutches

Although a business may not use asbestos parts, it cannot be sure that the parts removed from a customer's vehicle do not contain asbestos. Common sense and good practice dictates that you should play it safe by treating all brake linings, brake pads and gaskets as though they contain asbestos.

Asbestos Siding

Asbestos siding can be sided over, but if it must be removed, special steps need to be taken to reduce breakage and fiber release:

- ↳ Keep asbestos-containing materials wet at all times
- ↳ Cut nails from behind the siding with a reciprocating saw, "lineman pliers" or a similar tool
- ↳ Lower shingles gently to the ground
- ↳ Avoid hard impacts from hammers and other tools
- ↳ Keep doors and windows shut while the removal is being conducted

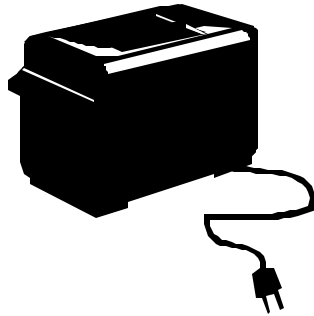


Appliances

Manufacturers have voluntarily withdrawn potentially unsafe products that contain asbestos from the market. A number of household appliances manufactured before 1980 used asbestos components.

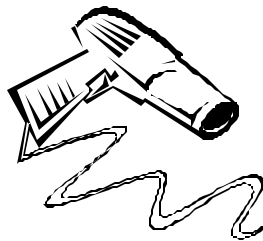
Following is a list of some of those appliances:

- ? Toasters
- ? Broilers
- ? Popcorn poppers
- ? Slow Cookers
- ? Dishwashers
- ? Refrigerators
- ? Ovens
- ? Ranges
- ? Clothes dryers
- ? Electric Blankets
- ? Hair Dryers



As long as an appliance that contains asbestos is not broken or improperly used, it should be safe. With normal use, it is unlikely that the asbestos in these products will create a hazard. Don't attempt to repair any of these appliances yourself, take them to the manufacturer or dispose of them.

Anyone concerned about the presence of asbestos in an appliance, can call the manufacturer. Have the make, model number, and approximate age of the appliance ready when you call. For more information, you should contact the Consumer Product Safety Commission at 800-638-2772 or on the web at www.cpsc.gov.



Wasn't ASBESTOS banned?

Important note on asbestos ban

On July 12, 1989, EPA issued a final rule banning most asbestos-containing products. In 1991, this regulation was overturned by the Fifth Circuit Court of Appeals in New Orleans. As a result of the Court's decision, the following specific asbestos-containing products remain banned: flooring felt, roll-board, and corrugated, commercial, or specialty paper.

In addition, the regulation continues to ban the use of asbestos in products that have not historically contained asbestos, otherwise referred to as "new uses" of asbestos.

For more information, you can go to EPA's website:

www.epa.gov/asbestos/ban.html

I think I have asbestos, now what?

If you think you have asbestos, before you do anything, make sure that it is asbestos.

The best way to deal with asbestos is to be informed. Private homes and residences are not covered by all of the strict regulations which cover schools and public buildings. Therefore, individuals must know how to protect themselves and their families when asbestos is present in their homes and residences.



The first step to take, is get an inspection done by a qualified inspector and samples taken of any suspect materials.

confirming the presence of asbestos

How can I find a qualified asbestos consultant?

To locate a consultant who can advise you on the steps to take to properly handle an asbestos problem, look in the telephone book under the following headings:



- ◆ *Building Inspection Services*
- ◆ *Engineers-Consulting*
- ◆ *Engineers-Environmental*
- ◆ *Environmental Analysis Services*
- ◆ *Environmental and Ecological Services Laboratories-Testing.*

New Jersey does not currently license asbestos inspectors. However, inspectors should have certification and training from the U.S. Environmental Protection Agency (EPA). They should also be affiliated with a laboratory accredited by the EPA. If asbestos is present, a qualified inspector will be able to make appropriate recommendations.

What to look for in the report

The report you receive from the environmental services expert should include the following information:



- ? The type and percentage of asbestos within the material (eg. 10% Chrysotile)
- ? The total amount of asbestos-containing materials present as well as what it is that contains asbestos (eg. 25 linear feet of pipe wrap)
- ? The location of each asbestos-containing item (eg. basement laundry room)
- ? Detailed recommendations of what can be done to protect occupants from exposure (eg. repair, remove, encapsulate or enclose).

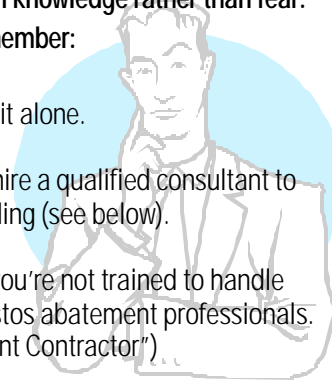
SOLVING AN ASBESTOS PROBLEM

Three things to remember about asbestos

While the thought of asbestos in your home can make you feel uneasy, there's no need to panic. Learn about asbestos so that you can make decision based on knowledge rather than fear.

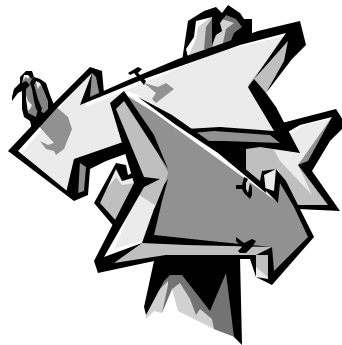
There are three things you should remember:

1. If it's in good condition, leave it alone.
2. To be sure that it is asbestos, hire a qualified consultant to inspect and evaluate your building (see below).
3. If work needs to be done and you're not trained to handle asbestos, hire a licensed asbestos abatement professionals. (see "Tips for Hiring a Competent Contractor")



↳ Understanding alternative solutions

Some people may feel that the removal of asbestos materials is



too costly, while others won't rest easy until it's all removed. Each person must decide what the best solution is for them.

If the material is in good condition, a maintenance program may be recommended for the asbestos-containing materials. If there is minor damage, repair, enclosure and/or encapsulation may be the best solution.

As a last alternative, removal may be recommended. Removal is inevitable if there are renovations taking place which will result in the replacement of items covered with asbestos or when there will be significant disturbance to asbestos-containing materials.

SOLVING AN ABESTOS PROBLEM (CONT'D)

↪ Maintenance

When asbestos materials are in good condition, the best way of dealing with the asbestos is to establish a program to maintain it. Using this approach, you

“FIBER RELEASE EPISODE”
If asbestos-containing materials are disturbed through maintenance or remodeling activities, accidental damage, vandalism or some other means, asbestos fibers may be released into the air.

must monitor the asbestos regularly to ensure that it is not damaged or disturbed. Ultimately, you want to avoid a fiber release episode.

Following is a list of items which should be included in your maintenance program:

1. Check all asbestos-containing materials regularly for signs of wear or damage
2. Inform other occupants of the locations of the asbestos. This way they can either avoid the area or they know to be careful when working around the materials.
3. Plan of action in the event that there is a fiber release episode.

Even materials in good condition may be a cause for concern to some individuals. This might mean that you will have to take additional measures which will help protect the material from damage.



SOLVING AN ASBESTOS PROBLEM (CONT'D)

↳ Enclosure

“Enclosure” means isolating asbestos materials from potential damage by using a sturdy, airtight barrier. This is a suitable action to take in dealing with asbestos, but it is not a permanent solution.

Two types of enclosures are sheet rock panels taped at the seams or a board with spline joints (thin metal or wood strips at the edge).

Enclosure is not as costly as removal, but it will require containment barriers while the enclosure is being constructed. In addition, individuals should use protective clothing and respirators equipped with High Efficiency Particulate Air (HEPA) filters while conducting this work. Any contractors used must be a NJ Department of Labor and Workforce Development-licensed asbestos contractor.



↳ Encapsulation

Encapsulation is done by spraying the material with a sealant approved for this purpose. When damage to asbestos material is minimal, encapsulation can temporarily keep asbestos fibers from becoming entrained in the air. If the material is crumbling and deteriorated, encapsulating the area with a spray-on, sealer-like paint can do more harm than good. The added weight of the encapsulant will pull the damaged materials away from the substrate and cause a fiber release episode. If only a small portion of the material is damaged, spot-repairs should be done. ***Contractors performing this work must be a licensed asbestos contractor.***

tips for hiring a competent contractor

- To locate a licensed asbestos abatement contractor, contact the NJ Department of Labor and Workforce Development at 609-633-2158.
- Obtain details of past violations of state or federal asbestos laws. You can call the NJ Department of Labor and Workforce Development at 609-633-2158.
- Ask the contractor about their abatement history and for references from similar projects.
- Obtain a detailed estimate of the exact services to be provided, including monitoring, design, replacement, damages, etc.
- Ask about their liability insurance, including the type, what it covers and the amount.
- Obtain numerous estimates from different contractors, they can vary significantly.
- Think about hiring a monitoring firm to oversee the removal; although it will be more costly, a good consultant will ensure the work is done properly.
- Most importantly, talk to each contractor and learn exactly what they will be doing on the job. If something doesn't sound right, contact the appropriate State office (see page 18).
- Check your comfort level with each contractor and then hire one based upon an overall evaluation of services, not just cost.



DISPOSING OF ASBESTOS WASTE

To ensure that the asbestos waste is disposed of properly, contact the NJ Department of Environmental Protection at 609-984-6985.



WHO TO CONTACT: state agencies

General Information • Training • Non-friable Exemptions
DEPARTMENT OF HEALTH & SENIOR SERVICES

Consumer & Environmental Health Services
Indoor Environments Program
PO Box 369, 3635 Quakerbridge Road
Trenton, NJ 08625-0369
Phone: 609-631-6749
Fax: 609-588-7618
www.state.nj.us/health/eoh/leadasb

Contractor Licensing • Worker/Supervisor Permitting • Work Requirements
**DEPARTMENT OF LABOR & WORKFORCE
DEVELOPMENT**

Asbestos Control & Licensing
PO Box 949, John Fitchway Plaza, 3rd Floor
Trenton, NJ 08625-0949
Telephone: 609-633-2158
Fax: 609-633-0664

Monitoring Firm Licensing • Asbestos Safety Technician Certification
DEPARTMENT OF COMMUNITY AFFAIRS

Division of Codes and Standards
Bureau of Code Services
PO Box 816, 101 South Broad Street, 4th Floor
Trenton, NJ 08625-0816
Telephone: 609-633-6224
Fax: 609-633-1040
www.state.nj.us/dca/codes/code_services/asbestos.shtml

Disposal of Asbestos Waste
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Bureau of Resource Recovery and Technical Programs
Division of Solid & Hazardous Waste
PO Box 414, 401 East State Street
Trenton, NJ 08625-0414
Telephone: 609-984-6985
Fax: 609-633-9839
www.state.nj.us/dep/dshw/rrtp/asbestos.htm

WHO TO CONTACT: Federal agencies

Federal Asbestos Regulations and Requirements

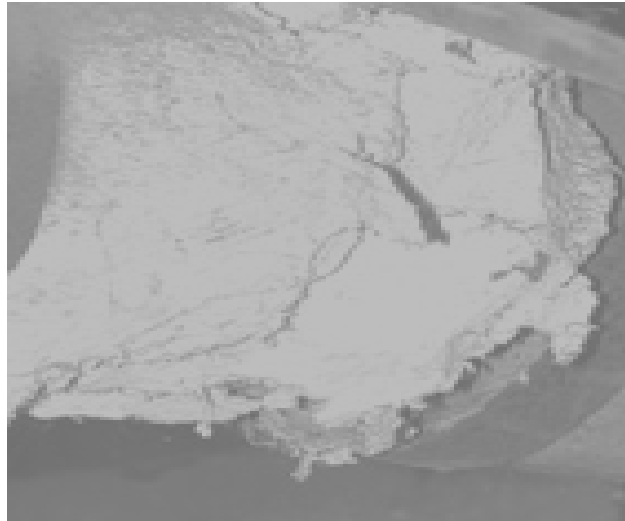
U.S. ENVIRONMENTAL PROTECTION AGENCY

US Environmental Protection Agency
EPA West Building
National Program Chemicals Division
1200 Pennsylvania Avenue, NW
Mail Code 7404T
Washington, DC 20460
Telephone: (202) 566-0500
Fax: (202) 566-0473
www.epa.gov/asbestos/contactus.html

Worker Protection and Safety

U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMIN.

U.S. Department of Labor
Occupational Safety & Health Administration
200 Constitution Avenue
Washington, D.C. 20210
Telephone: 1-800-321-OSHA (6742)
www.osha.gov/SLTC/asbestos/index.html



NJ DEPT. OF HEALTH &
SENIOR SERVICES

Consumer & Environmental Health Services

Indoor Environments Program

3635 Quakerbridge Road, PO Box 369

Trenton, NJ 08625-0369

Phone: 609-631-6749

Fax: 609-588-7618

Web: www.state.nj.us/health/eoh/tsrp

New Jersey Department of Health and Senior Services

Consumer & Environmental Health Services

Indoor Environments Program

PO Box 369, 3635 Quakerbridge Road

Trenton, NJ 08625-0369