



Asbestos is a naturally occurring fibrous mineral that is used in many applications for its fire resistance, noise insulation and electrical insulation properties. Common uses prior to the mid-1970's included building products such as pipe insulation, acoustical sound-proofing, house insulation, fireproofing, house siding, floor coverings, roofing materials and heating and cooling systems.

There are two general forms of asbestos: friable and non-friable. Friable asbestos can be crumbled, pulverized or reduced to a powder by hand pressure when dry and is the most dangerous form. Non-friable asbestos cannot easily be pulverized or reduced to a powder. Nonfriable asbestos that is damaged to the extent that it can be crumbled or reduced to a powder by hand pressure must be handled and packaged like friable asbestos wastes. Resilient floor tile, roof felts, asphalt tiles, asphalts, mastics, and transite roofing shingles, siding and piping are considered non-friable forms of asbestos, unless they are or will be damaged during demolition or renovation activities.

Inhalation of asbestos fibers may cause cancer, so **inhalation of asbestos fibers and dust must be avoided**. The most important thing in handling, transporting or disposing of asbestos is to do so in a way that prevents airborne release of fibers or dust.

Regulatory Overview

Asbestos is regulated under the authority of multiple statutes. The Environmental Protection Agency (EPA) regulates asbestos as a solid waste under the Resource Conservation and Recovery Act (RCRA), as a hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as a building material under the Toxic Substance Control Act (TSCA), limits effluent discharges for asbestos fibers in water under the Clean Water Act, and as an airborne contaminant under the National Emission Standards for Hazardous Air Pollutants program (NESHAP) in accordance with the Clean Air Act.

The National Emission Standards for Hazardous Air Pollutants (NESHAP) requires notification of asbestos abatement activities and requires abatement contractors

to follow certain procedures related to removing and packaging asbestos for disposal. It also requires specific work practices to be implemented to prevent releases of asbestos fibers to the air.

The Occupational Safety and Health Administration (OSHA) regulates asbestos in work-related settings, while the Consumer Product Safety Commission regulates asbestos in consumer products.

The U. S. Department of Transportation (DOT) regulates the transportation of asbestos and has designated asbestos as a hazardous material for purposes of transportation. The Department of Transportation has specific requirements for shipping documents, packaging, labeling, and vehicle placarding. Asbestos must be loaded, handled and unloaded in a manner that will minimize occupational exposure to airborne asbestos fibers released during transit.

The Colorado Department of Public Health and Environment has in-state authority to regulate asbestos under the Clean Air Act and Resource Conservation and Recovery Act (RCRA). The Hazardous Materials and Waste Management Division and the Air Pollution Control Division share regulatory responsibility for asbestos.

The Air Pollution Control Division regulates inspection and assessment activities for asbestos as well as the safe removal and handling of asbestos-containing materials (abatement). The Hazardous Materials and Waste Management Division regulates the proper disposal of asbestos-containing wastes and soils.

Building Remodeling and Demolition

Asbestos is often contained in buildings that are being demolished or renovated. During these operations, asbestos may be released as an airborne contaminant. State air pollution regulations require that inspections for asbestos-containing materials be conducted by a state-certified asbestos inspector prior to renovation or demolition of any building structure or facility component. In addition, a Notification of Demolition Form must be submitted to the Air Pollution Control Division, even if no asbestos was found during the inspection, along with payment of a notification fee. A ten

(10) working day processing period is required before the demolition can proceed.

Friable asbestos-containing materials that will be disturbed must be removed prior to the start of remodeling or demolition activities. Federal and state regulations require written notification to the Air Pollution Control Division of planned asbestos abatement work, whether friable or non-friable, and a permit must be obtained before the start of such projects.

Insulation, drywall and other materials should be characterized prior to any remodeling or demolition activities. This can facilitate the business and liability management decisions, including disposal options, associated with the property. If the materials are determined to contain greater than 1% asbestos, abatement activities must occur prior to remodeling or demolition. The appropriate level of asbestos removal may be determined based on: 1) the regulatory requirements, 2) future use of the property and 3) the area(s) to be disturbed.

Asbestos abatement must include asbestos inspection, testing and removal, as appropriate, prior to renovation or demolition of the structure and in accordance with the Air Pollution Control Division's Regulation 8 and the National Emission Standards for Hazardous Air Pollutants (NESHAPS). The abatement activities may include segregation of the asbestos-containing materials (including drywall, floor tiles, etc.) from the remainder of the potential construction and demolition debris as part of the pre-demolition activities, and disposal of each appropriately.

Some remodeling and demolition projects involve abatement of asbestos-containing material sufficient for current and near-term use of the building or space. These projects may not remove all of the friable or non-friable asbestos-containing material in the building or structure at the time of initial abatement activities. The remaining asbestos-containing materials will have to be addressed if they are impacted by other renovation or demolition activities at a later date.

Homeowners may remove asbestos in their primary residence themselves without obtaining a permit and without notifying the state of their activities so long as the home is owner-occupied. It is strongly recommended that they utilize a certified asbestos abatement contractor to minimize the risk of releasing asbestos fibers into the home.

The Air Pollution Control Division certifies asbestos abatement contractors, asbestos abatement workers,

asbestos abatement supervisors, asbestos abatement project designers, asbestos building inspectors and management planners. Each discipline must complete an Air Pollution Control Division-approved course and pass a state test in order to be certified by the State of Colorado.

For questions regarding asbestos abatement and worker certification, please contact the Air Pollution Control Division at (303) 692-3100 or visit <http://www.cdphe.state.co.us/ap/asbestos/>. This website includes information on notification, permitting, certification, training, the enforcement history of asbestos abatement contractors and a list of asbestos waste disposal sites. A list of certified asbestos abatement contractors is available in the yellow pages under "Asbestos Abatement" and "Asbestos Consulting and Testing," and on the Air Pollution Control Division website.

Disposal

Homeowners and asbestos contractors must dispose of waste asbestos materials properly. The disposal of asbestos is regulated by the Hazardous Materials and Waste Management Division as a solid waste. Section 5 of the solid waste regulations (6 CCR 1007-2) includes regulations on packaging of asbestos for disposal and disposal criteria for landfills.

The solid waste regulations require landfill operators to handle asbestos wastes in a specific manner. Non-friable asbestos is accepted for disposal by many landfills as long as the landfill operator is contacted for approval prior to disposal. Some landfills choose not to accept any asbestos-containing materials for disposal.

Friable asbestos, and nonfriable asbestos damaged to the point of being friable, may be disposed of at only five landfills expressly authorized to accept friable asbestos wastes by their certificates of designation. These include Denver--Arapahoe Disposal Site in Aurora (303-690-4303), Conservation Services Inc. in Bennett (303-280-9336), Tower Landfill in Commerce City (303-371-5115), Milner Landfill in Routt County (970-875-0355) and the Mesa County Landfill near Grand Junction (970-241-6846). The Mesa County Landfill accepts friable asbestos wastes generated within Mesa County only. In all cases, the landfill operator must be contacted for approval prior to disposal. For more information on disposal sites, visit <http://www.cdphe.state.co.us/ap/asbestos/asbestosdisposal.pdf>.

Friable asbestos waste and non-friable asbestos waste damaged to the point of being friable must be properly packaged before being sent to the landfill. It must be tightly sealed, while wet, in at least two 6-mil, leak-tight polyethylene bags or in a wrapping or other container deemed equivalent by the Hazardous Materials and Waste Management Division. The outermost layer of the packaging must be labeled with a waste shipment manifest label that gives the name and address of the generator of the waste, and either of the following statements in letters at least 0.5 inches tall:

CAUTION
Contains Asbestos
Avoid Opening Or Breaking Container
Breathing Asbestos Is Hazardous
To Your Health

or

DANGER
Contains Asbestos Fibers
Avoid Creating Dust
Cancer and Lung Disease Hazard

There are no state regulations regarding the packaging of nonfriable asbestos for disposal. The landfill should be contacted prior to disposal for any local requirements.

Non-friable vinyl-asbestos tile flooring and asphaltic roofing materials that are in good condition and not friable prior to demolition may be disposed of as construction and demolition materials as long as they are not rendered friable by the demolition activities.

Drywall and drywall mud may contain asbestos. The percent of asbestos contained in drywall and its associated materials, including mud and tape, may be determined based on a representative composite sampling program. Drywall finishing mud and joint compound, referred to simply as "mud", frequently has been found to contain a significant amount of asbestos (i.e. greater than 1%), while the substrate it is applied over may or may not contain any asbestos. The question, then, is how to handle this composite material in the event of a renovation or demolition project that will impact these materials.

Two distinct situations may occur: first, the demolition/renovation project may impact the mud alone, such as could be the case during a sanding operation, or second, the demolition/renovation project may impact the composite material (the mud and the substrate drywall it is applied over), such as would be the case in the demolition of the drywall.

In the first case, if the mud contains greater than 1% asbestos, the project must be handled as an asbestos abatement project, subject to all the applicable requirements of the Air Pollution Control Division. In the second case, the project is considered to be an asbestos abatement project if the percent of asbestos in the combined mud/drywall composite material is greater than 1%.

If, on the other hand, the mud contains 1% or less of asbestos, the material is not considered to be asbestos-containing material for purposes of the Air regulations and is not subject to the asbestos abatement requirements. Similarly, if the composite analysis indicates an asbestos content of 1% or less, even though the mud itself may be greater than 1%, the material is not considered to be asbestos-containing material and does not fall under the asbestos abatement requirements of the Air regulations. In both of these cases, the removed materials may be disposed of as construction and demolition debris – i.e., non-asbestos waste. Adequate documentation must be kept to demonstrate the determination regarding the concentration of asbestos in the materials being disposed.

If construction or demolition debris is commingled with any friable asbestos material, it all must be disposed of as asbestos-contaminated debris. Proper materials characterization and planning should occur early in the project to minimize the amount of asbestos-containing waste.

For more information:

Colorado Department of
Public Health and Environment
4300 Cherry Creek Drive South
Denver, CO 80246-1530

For abatement, renovation, demolition, training or certification questions, contact:

Air Pollution Control Division Asbestos Unit
Telephone: 303-692-3100
Email: asbestos@state.co.us

For disposal questions, contact:

Hazardous Materials and Waste Management Division
Solid Waste Unit
Telephone: 303-692-3300
Email: comments.hmwm@state.co.us

SW-001

This Compliance Bulletin is intended to provide guidance on the appropriate management of wastes based on Colorado solid and hazardous waste statutes and regulations only. The wastes described in this guidance may be regulated under other statutes and regulations.