



## Reuse Tips for Builders & Remodelers



### Hazardous Building Materials Found in Homes & Other Structures

When considering salvaging materials from remodeling or deconstructing a building, it is important to know which materials contain hazardous materials that cause environmental and health concerns. It is also important to know which items can be reused and how to dispose of the items that can't be. This document will provide basic information on these items and handling procedures for them.

Hazardous materials may involve federal, state, and local laws or regulations. Regulatory requirements vary, so it is important to contact state and local agencies to ensure compliance and environmental safety for workers and others that may be impacted by the project.

Please Note: Detailed information and guidance on environmental regulations, protective measures and removal procedures for asbestos and lead based paint, as well as other hazardous material and safety issues and recommendations, are beyond the scope of this document. Additional information on environmental hazards relating to salvaging and deconstruction is presented in numerous resources which can be found via an Internet search, including [A Guide to Deconstruction](http://www.deconstructioninstitute.com/files/learn_center/45762865_guidebook.pdf) ([http://www.deconstructioninstitute.com/files/learn\\_center/45762865\\_guidebook.pdf](http://www.deconstructioninstitute.com/files/learn_center/45762865_guidebook.pdf))

#### *Asbestos and Lead*

Before remodelers renovate or deconstruct a structure built before 1978, environmental surveys for friable and non-friable asbestos, as well as lead, conducted by a certified environmental consultant are required by law. The US EPA, OSHA, and HUD regulate asbestos containing materials and lead-based paint. Contractors who work on homes built before 1978 are required to be trained and certified in using lead-safe work practices.<sup>1</sup> Plan accordingly for the costs involved in abatement and the impact on the overall project schedule for surveying and abatement. Asbestos and lead removal contractors are responsible for following all health and safety regulations relating to the handling and disposal of asbestos and lead-based materials, if they are present in the structure.

The asbestos abatement contractor should ensure that proper notifications and permit applications to the state environmental protection agency are filed. Be sure to consult with the abatement contractor about the planned salvaging activities and whether the items to be salvaged may be damaged during the abatement process. All asbestos containing materials must be removed and the abatement must receive proper clearance certifying that the building is safe prior to beginning any deconstruction and salvage work.

Tables 1 – 4 provide a synopsis of materials and related environmental concerns.

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<sup>1</sup> [Renovation, Repair and Painting Rule](http://www.epa.gov/fedrgstr/EPA-TOX/2008/April/Day-22/t8141.htm) (<http://www.epa.gov/fedrgstr/EPA-TOX/2008/April/Day-22/t8141.htm>)

**TABLE 1. MATERIALS CONTAINING ASBESTOS & LEAD**

<b>Material</b>	<b>Reuse</b>	<b>Environmental/Health Concerns</b>
Plaster & gypsum wallboard	Repair cracks or cover with textured paint. Install new wallboard over old.	Nuisance dust, lead paint, and asbestos in older wallboard
Wood (lumber, flooring, etc.)	Timbers, dimensional lumber, plywood, flooring, and molding.	Lead paint
Windows	Windows in good condition, preferably with good insulating value. High value, such as old multi-paned windows.	Lead paint, asbestos in older window glazing, and low insulation qualities of older windows
<b>Actions to Take:</b> Do not reuse if lead paint or asbestos presence is suspected. Contact local solid waste office about disposal options.		
<b>Material</b>	<b>Reuse</b>	<b>Environmental/Health Concerns</b>
Cabinets	Can be re-faced	Lead paint, formaldehyde in particleboard or interior grade plywood
Plumbing	Sinks, tubs, faucets	Lead content in faucets, solder, and old galvanized pipe
<b>Actions to Take:</b> Do not reuse if lead paint is suspected. Contact local solid waste office about disposal options.		
<b>Material</b>	<b>Reuse</b>	<b>Environmental/Health Concerns</b>
Non-wood flooring (tile, carpeting)	Difficult, unless removed intact, clean carpet in good, dry condition	Asbestos contents in 9-inch tiles or sheet vinyl flooring.
Roofing materials	Retain sheathing if in good condition, terra cotta or slate tiles	Possible asbestos content
Siding		Possible asbestos content
<b>Actions to Take:</b> Do not reuse if asbestos is suspected. Contact local solid waste office about disposal options.		
<b>Material</b>	<b>Environmental/Health Concerns</b>	
HVAC systems and ductwork insulation, ceiling, wall and vermiculite insulation	Possible asbestos content	
<b>Actions to Take:</b> Do not reuse if asbestos is suspected or insulation is wet. Contact local solid waste office about disposal options.		
<b>Material</b>	<b>Reuse</b>	<b>Environmental/Health Concerns</b>
Electrical products	Only if in good working order or re-wired	Frayed wires and possible asbestos in the insulation
<b>Actions to Take:</b> Do not reuse if asbestos is suspected, or wires are frayed. Contact local solid waste office about disposal options.		
<b>Material/Item</b>	<b>Environmental/Health Concerns</b>	
“Popcorn” textured ceilings, ceiling tiles, wall plaster	Possible asbestos content	
<b>Actions to Take:</b> Do not reuse. Contact local solid waste office about disposal options.		
<b>Material</b>	<b>Environmental/Health Concerns</b>	
Miscellaneous materials including electrical insulators, light fixtures, other materials	Possible asbestos content	
<b>Actions to Take:</b> Do not reuse if asbestos is suspected or in disrepair. Contact local solid waste office about disposal options.		

**TABLE 2. MATERIALS REQUIRING SPECIAL HANDLING INSTRUCTIONS**

Material/Item		Environmental/Health Concerns
Pre-1979 electrical devices (e.g., capacitors, fluorescent light fixture ballasts, motors, pumps, etc.), some plastics, molded rubber parts, coatings or sealants, caulking, adhesives, insulation; and felt or fabric products (e.g., gaskets)		May contain PCBs (polychlorinated biphenyls). PCBs were commonly used in pre-1979. PCBs are oily liquids that are usually pale yellow to clear.
<b>Actions to Take:</b> Do not reuse. Store suspected devices or items containing PCBs securely. Do not remove PCB liquid. PCB disposal is regulated. If handling and disposal requirements are not followed, all project parties may be held liable. Contact a hazardous waste disposal company. <sup>2</sup>		
Material/Item	Reuse	Environmental/Health Concerns
Fluorescent lamps, tubes, & bulbs	Reuse newer bulbs	Contain varying amounts of mercury.
<b>Actions to Take:</b> Do not break or crush. Securely store fluorescent lamps, tubes, and bulbs in a box or container to prevent breakage. Contact local solid waste office about disposal options.		
Material/Item	Environmental/Health Concerns	
Thermostats, switches, load meters, supply relays, and a range of other devices. Hospitals, clinics, labs, dental offices, and schools are likely to have mercury in sink traps and other equipment and devices.	Contain mercury.	
<b>Actions to Take:</b> Replace mercury thermostats and other devices with newer, non-mercury containing models. Do not reuse. Do not remove mercury from a device. Remove the device intact and store it securely in a covered container to prevent breakage. Label the container. Check with a HVAC supply center to see if they will accept thermostats for recycling or contact the <a href="http://www.thermostat-recycle.org/">Thermostat Recycling Corporation</a> ( <a href="http://www.thermostat-recycle.org/">http://www.thermostat-recycle.org/</a> ). If mercury containing devices other than thermostats are found, contact a hazardous waste disposal company or the local solid waste office.		
Material/Item	Environmental/Health Concerns	
Animal Droppings	Biological hazards, including bird & rat droppings	
<b>Actions to Take:</b> Do not vacuum. Wipe up with wet cloth and dispose in sealed bag. Use protective clothing, eyewear, and air mask/filter.		

**TABLE 3. RECYCLABLE MATERIALS**

Material	Reuse	Environmental/Health Concerns
Paints, oils, corrosive or flammable liquids		Hazardous if improperly handled or disposed
Propane tanks	Check canisters to ensure intact and safe for reuse.	Contain propane under pressure.
Refrigerators, freezers, air conditioners, other items with refrigerants	Older models should not be reused due to lower energy ratings.	Contain refrigerants
Smoke detectors; emergency lighting systems; elevator control panels; exit signs; & security systems & alarms		Contain batteries Emergency lighting systems may also contain radioactive materials.
<b>Action to Take</b> - Properly recycle by consulting with local solid waste agency for disposal options.		

**TABLE 4. TREATED WOOD**

Material	Reuse	Environmental/Health Concerns
Landscape materials	Timbers, stone, & concrete	Toxic chemicals in pressure-treated wood
<b>Actions to Take:</b> Use wood only if in good condition. Do not mulch treated wood.		

<sup>2</sup> PCB regulations (<http://www.epa.gov/epawaste/hazard/tsd/pcbs/index.htm>) are on the EPA website. Also consult the [EPA Guide](http://www.epa.gov/compliance/resources/publications/assistance/sectors/constructmyer/myer1c_pcb.pdf) ([http://www.epa.gov/compliance/resources/publications/assistance/sectors/constructmyer/myer1c\\_pcb.pdf](http://www.epa.gov/compliance/resources/publications/assistance/sectors/constructmyer/myer1c_pcb.pdf)) to handling and proper disposal of PCBs. Fluorescent bulbs are universal wastes and must either be recycled or handled as hazardous waste.