## How To Properly Remove Sheet Vinyl Flooring with Asbestos Backing For Owner-Occupied, Single-Family Residences Only

This publication details the steps necessary for the safe removal of sheet vinyl flooring with asbestos backing from an owner-occupied, single-family residence by the residing homeowner.

**Note:** An owner-occupied, single-family residence is a non-multiple unit building containing living space that is currently occupied by one family who owns the property as their permanent and primary residence. Spokane Regional Clean Air Agency (Spokane Clean Air) interprets "currently occupied" to mean that the owner of the home lives in the residence both prior to and after the renovation and demolition activities (assuming a new residence is constructed after demolition). This term includes houses, mobile homes, trailers, detached garages, outbuildings, houseboats, and houses with a "mother-in-law apartment" or "guest room". This term does not include rental property, multiple unit buildings (e.g., duplexes and condominiums with two or more units) or multiple-family units, mixeduse buildings (e.g., a business being operated out of a residence), structure, or installation that contains a residential unit. For these types of properties you must contact Spokane Clean Air prior to any renovation or demolition project.

Be aware that no set of instructions can anticipate all possible situations and variables that a resident homeowner may encounter in an asbestos abatement (removal) project.

It is essential that you read these instructions from start to finish, making sure you thoroughly understand them before cutting or disturbing your vinyl flooring in any way. **Failure to do so poses a health risk to you and your family.** 

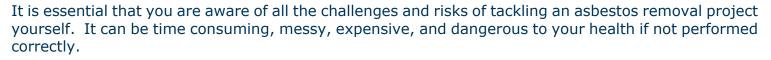
Exposure to airborne asbestos may cause cancer or other lung diseases. Spokane Clean Air strongly recommends that resident homeowners hire state-certified asbestos abatement contractors. If, after reading this instruction manual, you still choose to do the work yourself, it is critical that you follow each step completely and carefully - from site preparation to disposal - so that your removal project is effective, safe and legal. Spokane Clean Air assumes no liability or responsibility for house damage, injuries, illnesses or related health problems arising from you performing an asbestos removal project. You assume all risks involved.

This publication is limited to the removal of Asbestos-Backed Sheet Vinyl Flooring. Guidance publications are also available for removing Spray-on Popcorn Ceilings and Cement Asbestos-Board Siding. For information, call (509) 477-4727 or visit www.spokanecleanair.org





### **Are You Prepared To Take On This Project?**



Before you begin any asbestos removal project, you must be able to answer "yes" to all of the following questions:

#### Are you sure there is asbestos in your flooring?

Not all sheet vinyl flooring has asbestos backing. To know for sure, submit a flooring sample for laboratory analysis. Cost for such testing is minimal. Laboratories are listed in the yellow pages of your phone book under "Environmental Services" and "Laboratories - Testing."

If you decide not to check for asbestos, assume the flooring contains asbestos and answer "Yes."

#### To take a flooring sample for lab analysis you will need:

a spray bottle, liquid dishwashing detergent, razor blade utility knife, resealable plastic bag, rubber gloves, one person to assist you

- 1. Fill a spray bottle with water mixed with one teaspoon of liquid dishwashing detergent.
- 2. Remove a piece of floor molding or a floor heat register to access an edge of the vinyl floor.
- 3. With a utility knife and wearing rubber gloves, cut 1-inch long, 1/8-inch wide sliver of flooring. Make sure to cut all the way down to the hard underlayment, so your sample includes all layers of the flooring, backing, and adhesive. While you're cutting the sample, a second person should mist the floor area with water from the spray bottle to ensure no fibers are released into the air.
- 4. Place the sample into the resealable plastic bag.
- 5. Take or send sample to a local asbestos testing lab.

If the laboratory results are negative, meaning that less than or equal to one percent asbestos was found in the sample, we suggest taking two additional samples from different areas and having them tested to confirm the analysis.







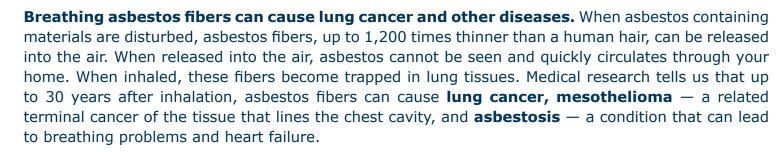
#### If your flooring contains asbestos, is removal the best option?

Asbestos is a problem only if fibers are released to the air. Unless asbestos-backed vinyl flooring is disturbed, it should not release asbestos fibers. Hence, the safest, easiest, and least-expensive option may be to leave it alone. Rather than removing it, consider installing a new floor directly on top of it. Another possibility is to lay ¼-inch underlayment on top of your existing floor and then lay new flooring on top of that. Or, if your existing flooring is in good condition, simply leave it alone.



### Are you prepared to accept the health risks associated with doing the asbestos removal yourself?

Airborne asbestos is a serious health hazard.



There is no known safe level of asbestos exposure. This is why medical, environmental health and regulatory organizations stress the need to protect health by minimizing exposure to airborne asbestos fibers, particularly at elevated levels, that may occur during a remodeling project.









### **Are You Prepared To Take On This Project? (cont.)**





The removal procedures described in this publication are intended to help resident homeowners minimize health risks associated with do-it-yourself asbestos removals. However, it should be understood that with any removal project some release of asbestos fibers into the air is unavoidable and there are no known safe levels of asbestos exposure.



# Are you prepared to assume the challenge of do-it-yourself asbestos removal and disposal?

The work will be difficult, requiring the purchase of safety equipment. Even under the best circumstances, do-it-yourself asbestos projects can be physically demanding and potentially dangerous.

- ◆ Breathing through a respirator is more difficult than normal breathing and places additional stress on your heart and lungs.
- ◆ Protective clothing can be hot and uncomfortable.
- ♦ Work spaces become very humid due to the water used in wetting the asbestos.
- ◆ Eye protection often results in reduced visibility.
- ◆ Caution must be taken with wiring and electrical power because of all the water being used to wet the asbestos.

As a resident homeowner, you do not have the specialized equipment, materials, and experience of an asbestos abatement contractor to perform this work. Unlike contractors, who have special machines with high-efficiency filters to remove fibers from the workplace air, you have few, if any, safety "back-ups" if something goes wrong.

**The work will be time consuming.** The total time it takes to remove sheet vinyl flooring can be substantial. Time estimates for removing the floor from an average size bathroom or kitchen are:

- ◆ Collect supplies ½ day
- ◆ Set up containment area, removal and clean up ½ day to 1 day
- ♦ Disposal ½ day





**Disposal Bag** 



The work may cause damage to your home. These procedures may result in damage. Duct tape can discolor wood paneling, tear wallpaper and remove paint and texture. Water may stain walls or seep through to a ceiling below the work area.

#### Are you aware of the legal issues involved?

**You are liable.** Your only legal options in having asbestos removed from your home are to hire a certified asbestos abatement contractor or do the work yourself.

**During removal** — The law prohibits you from hiring anyone other than a Certified Asbestos Abatement Contractor to perform, or assist with, asbestos removal work in your single-family residence. Resident homeowners may remove asbestos themselves, provided they follow applicable standards. But as stated above, this option is difficult, time-consuming and dangerous to your health if prescribed work procedures are not strictly followed.

**During disposal** — If you choose to remove asbestos yourself, you take on the legal liability of ensuring proper bagging and identification of asbestos debris, correct transport (in a covered vehicle), and disposal **ONLY** at disposal sites or transfer stations licensed to receive such waste. These regulations protect your community from the harmful effects of asbestos.

The Washington State Department of Labor and Industries has regulations that may also apply. Call 1-800-4-BE-SAFE or visit **www.lni.wa.gov** for more information.

If you answered "No" to any of the above questions, and if you still wish to have asbestos removed from your home, YOU MUST CONTACT A STATE-CERTIFIED ASBESTOS REMOVAL CONTRACTOR. This is the quickest, safest, and most-reliable way to remove asbestos from your home.

Contact Spokane Clean Air for a list of contractors and/or service providers. Call (509) 477-4727 or visit www.spokanecleanair.org.

### **Before You Begin Asbestos Removal**





No set of instructions can address all possible situations and variables that a resident homeowner may encounter in an asbestos removal project. This publication is intended to address the common steps and most important issues involved in removing sheet vinyl flooring.

Common sense dictates that unique and particularly challenging projects should not be undertaken by the resident homeowner. In such cases, avoid the possibility of asbestos contamination by abandoning the "do-it-yourself" approach and hiring a state-certified asbestos abatement contractor.



#### 1. Determine the appropriate method for safely removing the floor.

Asbestos-backed sheet vinyl flooring was commonly installed over a variety of surfaces: hardwood, softwood, concrete, tongue-and-groove wood, particle board, and plywood. The removal procedures described in this publication address the removal of asbestos-backed sheet vinyl only if:

- ◆ It can be **peeled** off with the asbestos-containing backing largely intact, or
- ◆ The sheet vinyl flooring was laid over plywood and can be cut and removed **in sections** with the underlayment attached.

Before you proceed, you must determine whether it's possible to remove your floor safely, and if so, which of the two removal methods – "peeling method" or "in sections method" should be employed.



### Instructions for determining the appropriate method for safe removal of your floor.

You will need a spray bottle, liquid dishwashing detergent, a razor blade utility knife, resealable plastic bag, rubber gloves, and one person to assist you.

- 1. Fill a spray bottle with water mixed with one teaspoon of liquid dishwashing detergent.
- 2. Using a utility knife, cut a test strip of the vinyl flooring approximately 2 inches wide by 6 inches long. It's best to do this at a floor heat duct opening or next to the wall in an inconspicuous corner of the room. Press hard to cut through all layers to the hard sub-flooring.
- 3. Using a putty knife, lift up the edge of the asbestos-backed flooring strip and slowly peel it back while another person **sprays the backing with water as it is exposed.** Attempt to peel no more than 1 or 2 inches.

#### What happens?

a. If the test strip comes up without tearing the backing, it means little or no adhesive has been used to hold the sheet vinyl in place. If this is the case with the rest of your vinyl, you will be able to use the "peeling" method to remove the remainder of the floor.

or

- b. If the asbestos backing tears away as you peel, it means your asbestos-backed sheet vinyl flooring is tightly attached with adhesives. It must be removed using the "in sections" method with the underlayment attached. This method is difficult and involves cutting out and removing sections of plywood (with the vinyl flooring attached) and disposing of the removed sections.
- 4. Dispose of the debris by carefully wrapping it in the plastic, sealing it with duct tape and placing it in an asbestos labeled bag (more disposal details listed near end of this quide.)



If, in performing the above test, you discover your asbestos-backed sheet vinyl flooring is tightly glued to anything other than particle board or plywood, there may be no safe way for you to remove it. Spokane Clean Air recommends you use a state-certified asbestos abatement contractor for such removals.

## **Before You Begin Asbestos Removal (cont.)**

#### 2. Gather essential personnel and supplies.

#### **Workers**



It is illegal to hire anyone other than a state-certified asbestos abatement contractor to perform or assist in the removal process.

Three people are recommended to remove a vinyl floor: two homeowners who reside in the house being worked on should perform the removal work and a third person should be "standing by" outside the work area to provide water, tools, and other supplies as needed while work is in progress. This will minimize the need for people inside the containment area to remove their disposable clothing and put on new clothing for each exit and entrance to the work area.

#### **Protective equipment and clothing**



**Note:** Before beginning your project, you'll need to obtain the following items. All items marked with a (triangle) must be purchased at special stores that carry approved health and safety equipment used for asbestos removal.

Check the yellow pages of your phone book under "Safety Equipment and Clothing" for a list of safety equipment vendors.



**Respirators** – Half-face, dual-cartridge respirators, each equipped with a pair of HEPA filters (color coded purple) are required. One respirator is required for each person working within the containment area. Respirators provide little protection if they do not fit properly, so request a fit test from the vendor.



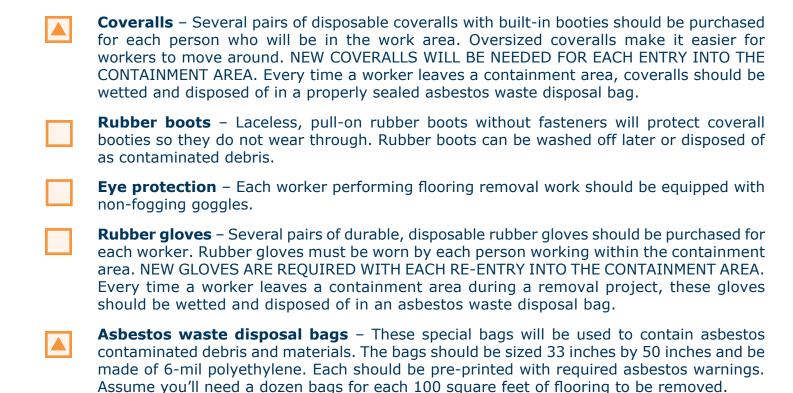


Proper Respirator & Goggles





# Persons with beards often cannot be adequately fitted with this type of respirator and should not work within contaminant areas.



# Before You Begin Asbestos Removal (cont.)

#### **Tools and Supplies**

<b>Permanent marker</b> – Use to write your last name, address and removal date on each waste disposal bag or sticker.
<b>Tank sprayer (2–3 gallons)</b> – This will be your means of wetting exposed asbestoscontaining materials.
Garden hose with automatic shut-off spray nozzle (optional) – If there is no water supply located within the work area, or if you do not have a worker outside the containment area available to refill your tank sprayer, you will need this item. Leave the hose just outside a window or door in the room you are working on. You want it within reach, but not inside the house where it may leak.
<b>Liquid dishwashing detergent</b> – Mixed at $\frac{1}{2}$ cup per $\frac{2}{2}$ gallons of water for best results in wetting.
<b>Removal tools</b> – Two sharp chisels with one-inch blades, two heavy (16- to 20-ounce) claw hammers, two putty knives with 4- to 6-inch blades, one razor blade utility knife with extra blades, one paint scraper or stiff-bladed wall or floor scraper, two wrecking bars for prying up flooring materials.
<b>Polyethylene plastic sheeting</b> – 2 or 3 mil sheeting will be used to cover countertops open doorways; 6 mil sheeting will be used to cover approximately a 6-foot square area of floor outside your designated exit. It will also be used to double wrap large pieces or removed flooring.
<b>Duct tape</b> – Numerous rolls will be needed for sealing waste disposal bags and holding some of the containment area plastic in place.
<b>Clean, disposable rags</b> – A large supply should be on hand for assorted removal and clean-up purposes.
<b>Spray bottle</b> – A water sprayer bottle will be needed to spray clothing upon exiting the containment area.
<b>Bucket</b> – You will need a bucket for washing tools at the end of the project.

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## **Site Preparation**

### 3. Prepare the house.

<b>Post signs</b> warning friends, family and others who might visit to stay away from the work area. Make sure pets cannot come near the work site.
Turn off heating and air conditioning systems.
Remove all furniture, floor moldings, metal-edge trim pieces, heat vents/grates, appliances, and other items that are on the floor. In bathrooms, this includes toilets and old-fashioned, claw-foot bathtubs. Modern bathtubs, which are flush to the floor and against which flooring is laid, need not be removed.
<b>Remove all loose items and small appliances</b> from counters, shelves, or other horizontal surfaces.
Sweep and wash the floor to provide a clean working surface.

#### 4. Build a containment area.

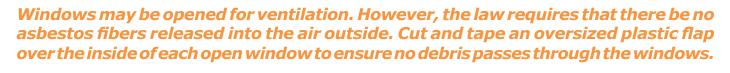
You need to contain asbestos debris and minimize the release of asbestos fibers by constructing a containment area.

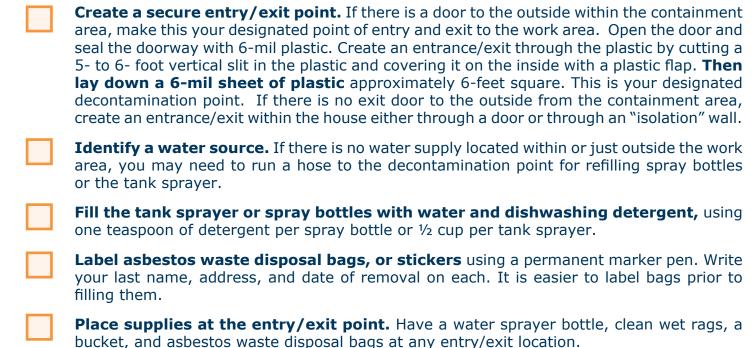
camin	tailinent area.		
	<b>Post these instructions for reference in</b> an accessible location within the containment area away from where you'll be spraying water.		
	<b>Cover counter tops and other horizontal surfaces with sheet plastic.</b> Secure the plastic with duct tape.		
	<b>Cover doorways and other entryways</b> into the work area with sheet plastic to isolate the area from the rest of the house.		
	<b>Tape plastic inside open floor-mounted heat ducts</b> to prevent debris from falling into the duct work.		

#### TIP

Hang these instructions like a calendar. See instructions for details.

## **Site Preparation (cont.)**





## **Protect Yourself**

### 5. Put on protective clothing and equipment.

<b>Put on coveralls, gloves, goggles, and respirator.</b> Those who will enter the containment
area to do the removal must put on disposable coveralls outside the containment area while
standing on the entrance/exit plastic. They should then put on gloves, goggles and respirators equipped with HEPA filters.

Tape your gloves to the sleeves	of your	disposable	coveralls	around	the	wrists	tc
ensure your arms and wrists remain	covered.	ı					

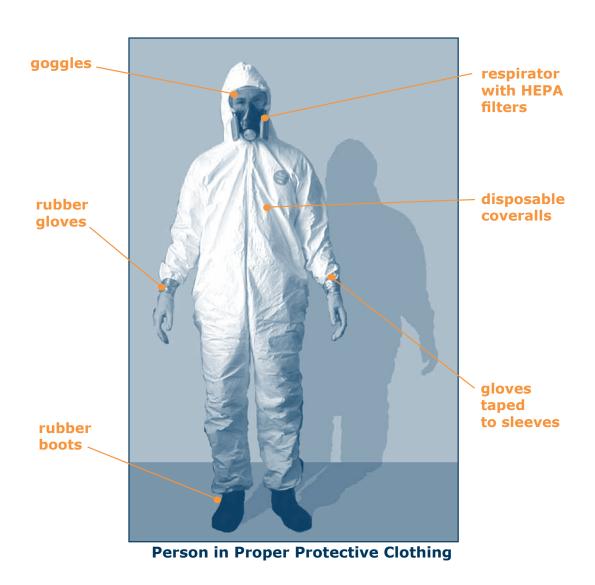




**Containment Area Secure Entry Point** 



If you must leave the plastic containment area during the project, use the spray bottle to wet down and remove protective equipment and clothing while standing on the plastic just outside the entrance/exit to the work area. Place coveralls and gloves in an asbestos waste disposal bag. Then step off the plastic. Upon returning, put on new coveralls and gloves.



### **Asbestos Removal**

6. Remove the floor using "peeling" method 6A or "in sections" method 6B, as determined by the test described on pages 6-7, "Before You Begin Asbestos Removal."

As you prepare to remove the floor, your most important objective is to minimize the disturbance of asbestos-containing materials.

Wetting is critical to asbestos fiber control. Before, during, and after removal, asbestos materials should be thoroughly saturated with water in order to keep asbestos fibers out of the air. Once removed, asbestos debris should be kept wet until packaged and sealed for disposal.

Enter the containment area only when fully clothed in protective gear.

#### **6A. Peeling Method**

Use the peeling method only if the test strip (Step 1) was successfully removed without tearing the asbestos backing.

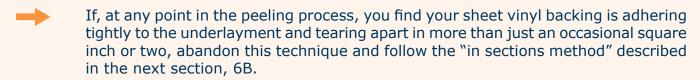
Cut the first piece of flooring; spray with water. Using the utility knife and sufficient pressure to fully penetrate the thickness of the vinyl, cut a piece of flooring approximately 1 by 2 feet. An assistant should thoroughly wet the starting edge with water, using the spray bottle. Lift and peel up the flooring, wetting as the backing is exposed.

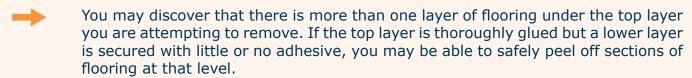


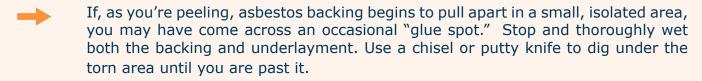


Wet the Floor Before, During, and After Removal

#### **Removal Tips and Troubleshooting**











Pieces that are too large to fit in a pre-marked asbestos waste disposal bag can be double wrapped in 6-mil plastic, sealed with duct tape, and tagged with asbestos waste disposal stickers.

If, at any point in the peeling process, you find your sheet vinyl backing is adhering tightly to the underlayment and tearing apart in more than just an occasional square inch or two, abandon this technique and follow the "in sections method" described below.



Lift and Peel up Flooring



### **Asbestos Removal (cont.)**

#### 6B. "In Sections" Method

Use the "in sections" method if the test performed in Step 1 revealed the vinyl flooring would tear – rather than peel – if lifted from the underlayment.

- Outline a section of flooring for removal using a marking pen. If your floor was laid on plywood, draw removal sections about 1- by 3-feet in size. If your floor was laid on top of particle board, make your removal sections about 1 by 1 foot in size. Because particle board doesn't have the structural strength of plywood, it will have to be removed in smaller pieces.
- **Using a hammer and chisel, make consecutive vertical cuts along the section you've marked for removal.** Each vertical cut should go through all layers of vinyl. It may go into, but not necessarily through, the plywood underlayment. As one person chisels, a second worker should follow, spraying each cut with the water and detergent mixture to wet exposed asbestos edges.

#### **Removal Tips and Troubleshooting**

- Whenever possible, cut down on the amount of chiseling you have to do by using seams in the plywood underlayment as edges to sections you're removing. Whenever an underlayment seam is being followed, use a utility knife, instead of a hammer and chisel, to cut the vinyl flooring.
- As you proceed, experiment to determine what size of section can most effectively be removed. Try to remove large, yet convenient-to-handle pieces.
- Using wrecking bars, pry up each cut section of plywood underlayment (with flooring attached and intact) from the sub-floor. As each piece is removed, re-wet section edges.
  - Double wrap sections of flooring in 6-mil polyethylene or insert them into asbestos waste disposal bags.



**Cutting the Floor** 

#### Tips and Troubleshooting: Do you have floor-mounted cabinets?

If the room has floor-mounted cabinets with recessed toe plates and the underlayment for your sheet vinyl floor extends under them, you may not be able to remove the underlayment flush to the cabinet recessed toe plate. In this situation, follow these steps:

- 1. Remove the underlayment to a point following a line 3 or 4 inches away from the recessed toe plate. Once flooring has been removed up to this point, you'll be left with a narrow strip of sheet vinyl glued to the inaccessible underlayment underneath the recessed toe plate.
- 2. To remove the strip of sheet vinyl flooring from the remaining underlayment under the recessed toe plate, take hold of an exposed edge and slowly lift the vinyl flooring, wetting the asbestos backing as it is exposed. Slowly peel this strip of flooring by rolling the removed strip and continually wetting the backing as it is exposed. Deposit the peeled-off flooring into asbestos waste disposal bags.
- 3. Before removing any asbestos backing left adhering to the underlayment under the recessed toe plate, thoroughly re-wet the material, allowing 20-30 minutes for the water/detergent solution to soak in. Then scrape the material off with a paint scraper or stiff-bladed wall/floor scraper. Continue to re-wet the leftover asbestos backing material as necessary.

Before laying a new floor, be sure to put down new underlayment to create a smooth, even surface with adjacent flooring.

### **Cleaning Up**

#### 7. Wet and remove all debris.

Wet and remove loose debris. Spray water and detergent mixture on any debris on the
plastic sheets laid on counters, floors and other horizontal surfaces. Carefully roll or fold the
debris up in these plastic sheets and deposit them in asbestos waste disposal bags.

# Cleaning Up (cont.)

the open floor heat ducts. Remove the plastic, being careful not to drop debris into the furnace ducts, and deposit it in an asbestos waste disposal bag.
<b>Wet and remove plastic sheets.</b> Mist with water, then take down and bag plastic sheets hung to separate the work area from the rest of the house. Deposit all plastic in asbestos waste disposal bags. DO NOT YET REMOVE THE PLASTIC OUTSIDE THE EXIT DOOR.
Check that you have collected all debris.
<b>Wipe down all surfaces, floors and tools</b> with clean, wet rags after removing all asbestos materials. Place tools in a bucket or plastic bag for more thorough cleaning later.
<b>Dispose of all contaminated rags as asbestos debris</b> in sealed asbestos waste disposal bags.

#### 8. Decontaminate.



Never attempt to vacuum or sweep up asbestos debris. This will cause any fibers present to become airborne in your house.

Stand on the last piece of plastic sheeting outside the designated exit door.
<b>Spray yourself (or each other) with water</b> to wet down any asbestos debris/fibers on the outside of your respirator and disposable coveralls.
<b>Remove boots, gloves and coveralls.</b> Remove your disposable gloves and coveralls by peeling them off and turning them inside out as you remove them. Double bag them in asbestos waste disposal bags. Dispose of boots as contaminated waste or put them in a plastic bag for cleaning later. Step off the last plastic sheet.

**Remove respirators and take out their filters.** Discard the filters with other asbestos waste.



Asbestos Waste Disposal Bag

<b>Clean safety gear.</b> Using clean wet rags, wipe down respirator and goggles used in the removal, and, if you elect to keep them, your boots. Place respirator and goggles in a bucket and your boots in a plastic bag for washing later.
<b>Double bag all remaining debris,</b> including all cleaning rags, disposable items and the entry/exit plastic sheet in asbestos waste disposal bags. <b>Tightly seal each bag with duct tape.</b>
Secure all waste debris bags by tightly twisting the tops each bag, bending the twisted part over and securing with duct tape.
Take a shower.

### **Disposal**

#### 9. Prepare and check all waste disposal bags.

Plastic bags or plastic sheeting that has been punctured will not be accepted by waste disposal sites.

All debris must be properly packaged for disposal: double bagged inside pre-labeled 6-mil bags designed specifically for asbestos waste disposal. Tops should be twisted and securely taped down. If you haven't already done so, use a permanent marker pen to write your last name, address, and date of removal on each bag.

#### 10. Transfer bags to an approved asbestos waste disposal site.

All double-bagged or wrapped debris must be hauled to a disposal site licensed to receive asbestos containing waste. Debris must be legally disposed of within 10 calendar days of being generated. If you must store the packaged debris prior to disposal, store it in a secured area, such as a locked shed or garage.

Currently, the only site in Spokane County licensed to receive asbestos containing waste is Graham Road Recycling & Disposal Facility, 1820 S. Graham Rd, Medical Lake, WA 99022, (509) 244-0151. Prior to waste delivery, contact the site for disposal fees and any additional requirements they may have for disposal. A Waste Shipment Record/Manifest form is available on our website, www.spokanecleanair.org.







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