

F. The area beneath the glove bag operation must be inspected for any dust or debris resulting from the glove bag operation.

G. Dust and debris from the glove bag operation must be assumed to be asbestos-containing material and must be cleaned using a HEPA-filter equipped vacuum or wet wiped.

H. The six-mil polyethylene sheeting must not be reused. The sheeting must be bagged, labeled as asbestos-containing waste, and handled as specified in part 4620.3575, subpart 9.

7. **On-site handling of asbestos-containing waste.** On-site handling of asbestos-containing waste from a glove bag operation must comply with part 4620.3575, subpart 9.

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4620.3581 MINI-CONTAINMENT PROCEDURES.

1. **Mini-containment.** When a portion of a project includes abatement of less than 25 linear feet of asbestos-containing pipe lagging or less than ten square feet of asbestos-containing material per room, for that portion of the project, the person performing abatement may use the mini-containment procedures in this part instead of the procedures in parts 4620.3566 to 4620.3575.

In process areas of facilities not accessible to the general public and designated in Division B, D, or E of the 1987 edition of the Standard Industrial Classification Manual, asbestos-containing material may be abated in quantities up to 25 linear feet or ten square feet for each 15,000 square foot area of floor space using the mini-containment procedures in this part. Divisions B, D, and E of the 1987 edition of the Standard Industrial Classification Manual are incorporated by reference and are not subject to frequent change. A copy of this material is available from the State Law Library, Minnesota Judicial Center, 25 Rev. Dr. Martin Luther King Jr. Blvd., St. Paul, MN 55155, or for loan or inspection from the Barr Library of the Minnesota Department of Health or through the Minitex interlibrary loan system.

2. **Remote decontamination.** Before proceeding to the remote decontamination unit, individuals performing mini-containment operations must:

- A. remove the outer layer of clothing worn during mini-containment abatement;
- B. vacuum clean all exposed parts of the body and hair using a HEPA-filter equipped vacuum cleaner; and
- C. don a nonpermeable layer of protective clothing which covers all body surfaces except the face and hands.

3. **Remote decontamination unit.** A remote decontamination unit must be available that complies with part 4620.3569, subparts 1, items B to D, and 2. The remote decontamination must be:

- A. available in the facility prior to the start of mini-containment operations;
- B. used by individuals following mini-containment operations for each asbestos work area; and
- C. placed in an area to minimize contamination of the area between the asbestos work area and the remote decontamination unit.

4. **Mini-containment set-up procedure.** All mini-containment operations must comply with this subpart.

A. Before the mini-containment operation begins, the area within ten feet of the mini-containment operation must be cleaned using a HEPA-filter equipped vacuum, wet wiping, or both, until no dust nor debris is visible.

B. A mini-containment must:

- (1) be constructed of one layer of six-mil polyethylene sheeting or comparable material;

(2) be equipped with a HEPA-filter equipped vacuum or a HEPA-filter equipped ventilation system so air pressure within the mini-containment is negative with respect to the air in the area outside the mini-containment; and

(3) have all seams in the polyethylene sheeting sealed.

5. **Asbestos removal or enclosure.** All persons using a mini-containment to perform abatement must comply with this subpart.

A. Negative air pressure within the mini-containment must be maintained until the procedures in subpart 6, item G, are completed.

B. Surfaces from which asbestos-containing material has been removed must be thoroughly cleaned until no visible asbestos-containing material remains.

C. All exposed asbestos-containing material within the mini-containment must be encapsulated according to part 4620.3572 before the mini-containment is removed.

6. **Completion of mini-containment operation.** Every mini-containment operation must be completed according to the procedures in this subpart.

A. All tools and equipment used in the mini-containment must be wet wiped until no visible residue remains.

B. The wet wiped tools and equipment must be passed through the mini-containment door in a sealed, leakproof container.

C. The leakproof container containing the tools must be opened only inside another mini-containment, decontamination unit, containment, or when submerged under water.

D. If the leakproof container with the tools is transported off-site, the container must be labeled as asbestos-containing material.

E. After the asbestos removal, encapsulation, or enclosure is complete, the interior of the mini-containment must:

(1) be cleaned using HEPA-filter equipped vacuuming, wet wiped, or both; or

(2) have an encapsulant applied to the interior of the mini-containment.

F. Before the mini-containment is removed, a visual inspection of the interior of the mini-containment and the abated surfaces must be performed as specified in part 4620.3575, subpart 2.

G. The mini-containment must be removed as specified in this item. The mini-containment must be removed by:

(1) sealing the door and collapsing the containment using a HEPA-filter equipped vacuum; or

(2) tearing down the mini-containment only after the results of clearance air sampling performed according to parts 4620.3594 to 4620.3598 indicate that fiber levels within the mini-containment do not exceed the clearance standard or alternative clearance standard in either part 4620.3100, subpart 2b or 10a.

5. **Posting asbestos work area.** During asbestos-related work, warning signs must be displayed at all approaches to the asbestos work area. The sign must state:

"DANGER.
ASBESTOS CANCER AND LUNG DISEASE HAZARD.
AUTHORIZED PERSONNEL ONLY.
RESPIRATORS AND PROTECTIVE CLOTHING
ARE REQUIRED IN THIS AREA."

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4620.3569 DECONTAMINATION UNITS.

1. **General.** Procedures for the use of the decontamination unit must be established by the person performing abatement to prevent contamination outside the asbestos work area. A decontamination unit must be used by all persons when exiting a containment. The decontamination unit must:

- A. be contiguous with the containment area except as provided in subpart 2;
- B. consist of a series of connecting rooms with the middle room being the shower room;
- C. have doorways between the rooms and entrances to the unit protected with two overlapping sheets of polyethylene or the functional equivalent; and
- D. have a shower room that:
 - (1) is leakproof;
 - (2) contains a series of water filters with the last filter capable of collecting particles of 5.0 micron or less;
 - (3) is supplied with hot and cold water adjustable at the tap; and
 - (4) is supplied with soap and disposable towels.

2. **Location.** In facilities classified in the Standard Industrial Classification Manual, 1987, as a B division, D division-major group 26, or E division-major group 49, the decontamination unit must be connected to the containment where feasible. The Standard Industrial Classification Manual, 1987, is available from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia, 22161, or from the State Law Library, Minnesota Judicial Center, 25 Rev. Dr. Martin Luther King Jr. Blvd., St. Paul, Minnesota 55155.

3. **Waste.** Filtered wastewater from the shower must be discharged to a sanitary sewer or a septic system, or may be collected in barrels for later disposal to a sanitary sewer or septic system.

4. **Small residential decontamination unit.** For small residential abatement, the decontamination unit must consist of at least a clean room, shower room, and dirty room.

5. **Decontamination unit other than small residential abatement.** For abatement in a facility other than small residential abatement, the decontamination unit must consist of a clean room, an air lock chamber, a shower, an air lock chamber, and a dirty room.

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(2) Code of Federal Regulations, title 40, part 763, subpart E, appendix A, section II, part F, is modified as follows:

(a) Paragraph 9(a) is modified to read: "9. Recording Rules. a. Any continuous grouping of particles in which an asbestos fiber with an aspect ratio greater than or equal to 3:1 and a length greater than or equal to 5.0 microns is detected shall be recorded on the count sheet. These will be designated asbestos structures and will be classified as fibers, bundles, clusters, or matrices. Record as individual fibers any contiguous grouping having 0, 1, or 2 definable intersections. Groupings having more than 2 intersections are to be described as cluster or matrix. An intersection is a nonparallel touching or crossing of fibers, with the projection having an aspect ratio of 3:1 or greater. See the following Figure 2:"

(b) Paragraph 9(a), figure 2, the portion entitled "DO NOT COUNT AS STRUCTURES," is modified by changing the aspect ratio from "5:1" to "3:1" and the micrometer length from "0.5" to "5.0."

(c) Paragraph 9(a)(i) is modified to read: "i. Fiber. A structure having minimum length greater than or equal to five microns and an aspect ratio (length to width) of 3:1 or greater and substantially parallel sides. Note the appearance of the end of the fiber, i.e., whether it is flat, rounded, or dovetailed."

(d) Paragraph 10(a) is modified to read: "a. Fiber. A structure having minimum length greater than or equal to 5 microns and an aspect ratio (length to width) of 3:1 or greater and substantially parallel sides. Note the appearance of the end of the fiber, i.e., whether it is flat, rounded, or dovetailed."

B. If the analysis results obtained according to item A indicate the concentration of asbestos fibers in the air exceeds 0.01 fibers per cubic centimeter of air, the occupied area immediately adjacent to the asbestos work area must be evacuated and not reoccupied until the corrective measures of subpart 3, item B, have been performed and documented.

5. Indoor air monitoring during glove bag or mini-containment procedures. When the glove bag or mini-containment procedures in parts 4620.3580 and 4620.3581 are used, indoor air monitoring must be performed according to this subpart.

A. At least two indoor air samples per room must be collected continuously from the time of initial disturbance of the asbestos-containing material until the time all glove bags or mini-containments have been removed in the room.

B. Indoor air samples during glove bag or mini-containment procedures must be collected within ten feet of the glove bag or mini-containment operation.

C. Sample collection and analysis must be completed according to subpart 4, item A, or part 4620.3597, subparts 2 to 4.

D. The glove bag or mini-containment operation is not complete and the asbestos work area must not be reoccupied until each of the indoor air samples has been analyzed and the result of each sample indicates a fiber level below the indoor air standard or the alternative indoor air standard.

E. Except as noted in item F, if any indoor air sample result exceeds the indoor air standard or the alternative indoor air standard, or if any indoor air sample is too heavily loaded to be quantitatively analyzed, subitems (1) to (3) must be followed.

(1) The area where the glove bag or mini-containment operation was performed must be recleaned and reinspected according to part 4620.3575, subpart 4.

(2) After recleaning and reinspection, at least two indoor air samples must be collected according to item C within ten feet of the area where the glove bag or mini-containment operation was performed.

(3) If any air sample result exceeds the indoor air standard or alternative indoor air standard, subitems (1) and (2) must be repeated.

F. When elevated fiber concentrations in the asbestos work area are suspected to be from nonasbestos dust in the air, the asbestos work area may be reoccupied if the following actions are taken:

- (1) the actions required in subpart 4, item A, must be performed immediately; and
- (2) if the analysis results obtained according to subpart 4, item A, indicate the concentration of asbestos fibers in the air exceeds 0.01 fibers per cubic centimeter of air, or if any indoor air sample is too heavily loaded to be quantitatively analyzed, the asbestos work area must be evacuated and the actions required in item E must be taken immediately.

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4620.3594 CLEARANCE AIR SAMPLING.

General. When enclosure, removal, or encapsulation is completed during an abatement, clearance air sampling must be performed to ensure that fiber levels in the air within the containment area do not exceed the clearance standard or alternative clearance standard.

A. The asbestos containment area must not be reoccupied until compliance with subitem (1) or (2) is achieved:

- (1) each of five clearance air samples, collected according to subpart 2, is less than or equal to the clearance standard or the alternative clearance standard; or
- (2) for a small residential abatement each of three clearance air samples, collected according to subpart 2, are less than or equal to the clearance standard.

B. If any clearance air sample result exceeds the clearance standard or alternative clearance standard, or any clearance air sample is too heavily loaded to be quantitatively analyzed, the containment area must be recleaned and reinspected according to part 4620.3575, subpart 4. Following compliance with part 4620.3575, subpart 4, clearance air sampling must be repeated according to this subpart.

2. Clearance air sampling procedures. Clearance air sampling must be conducted in the containment area after the containment has been cleaned thoroughly, dried completely, and passed the visual inspection required under part 4620.3575, subpart 4.

A. The critical barriers specified in part 4620.3567 must remain in place.

B. The decontamination unit must remain in place and remain operational.

C. Negative pressure within the containment must be maintained until analysis of clearance air samples is complete.

D. The clearance air sampling sites must be selected on a random basis within the containment to provide unbiased and representative sampling of the air within the containment.

E. Clearance air sampling must be performed with equipment that has been cleaned and decontaminated before use.

F. Clearance air sampling must be conducted as specified in subitems (1) to (3).