

collected following the procedures specified in Appendix A.

(ii) All samples taken to satisfy the monitoring requirements of paragraph (f) of this section shall be evaluated using the OSHA Reference Method (ORM) specified in Appendix A, or an equivalent counting method.

(iii) If an equivalent method to the ORM is used, the employer shall ensure that the method meets the following criteria:

(A) Replicate exposure data used to establish equivalency are collected in side-by-side field and laboratory comparisons;

(B) The comparison indicates that 90 percent of the samples collected in the range 0.5 to 2.0 times the permissible limit have an accuracy range of plus or minus 25 percent of the ORM results with a 95 percent confidence level as demonstrated by a statistically valid protocol; and

(C) The equivalent method is documented and the results of the comparison testing are maintained.

(iv) To satisfy the monitoring requirements of paragraph (f), employers shall rely on the results of monitoring analysis performed by laboratories that have instituted quality assurance programs that include the elements prescribed in Appendix A:

(6) *Employee notification of monitoring results.* (i) The employer shall notify affected employees of the monitoring results that represent that employee's exposure as soon as possible following receipt of monitoring results.

(ii) The employer shall notify affected employees of the results of monitoring representing the employee's exposure in writing either individually or by posting at a centrally located place that is accessible to affected employees.

(7) *Observation of monitoring.* (i) The employer shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to asbestos, tremolite, anthophyllite, or actinolite conducted in accordance with this section.

(ii) When observation of the monitoring of employee exposure to asbestos, tremolite, anthophyllite, or actinolite requires entry into an area where the use of protective clothing or equipment is required, the observer shall be provided with and be required to use such clothing and equipment and shall comply with all other applicable safety and health procedures.

(g) *Methods of compliance.*—(1) *Engineering controls and work practices.* (i) The employer shall use one or any combination of the following control methods to achieve compliance

with the permissible exposure limit prescribed by paragraph (c) of this section:

(A) Local exhaust ventilation equipped with HEPA filter dust collection systems;

(B) General ventilation systems;

(C) Vacuum cleaners equipped with HEPA filters;

(D) Enclosure or isolation of processes producing asbestos, tremolite, anthophyllite, or actinolite dust;

(E) Use of wet methods, wetting agents, or removal encapsulants to control employee exposures during asbestos, tremolite, anthophyllite, or actinolite handling, mixing, removal, cutting, application, and cleanup;

(F) Prompt disposal of wastes contaminated with asbestos, tremolite, anthophyllite, or actinolite in leak-tight containers; or

(G) Use of work practices or other engineering controls that the Assistant Secretary can show to be feasible.

(ii) Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the limit prescribed in paragraph (c), the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

(2) *Prohibitions.* (i) High-speed abrasive disc saws that are not equipped with appropriate engineering controls shall not be used for work related to asbestos, tremolite, anthophyllite, or actinolite.

(ii) Compressed air shall not be used to remove asbestos, tremolite, anthophyllite, or actinolite or materials containing asbestos, tremolite, anthophyllite, or actinolite unless the compressed air is used in conjunction with an enclosed ventilation system designed to capture the dust cloud created by the compressed air.

(iii) Materials containing asbestos, tremolite, anthophyllite, or actinolite shall not be applied by spray methods.

(3) *Employee rotation.* The employer shall not use employee rotation as a means of compliance with the exposure limit prescribed in paragraph (c) of this section.

(h) *Respiratory protection.*—(1) *General.* The employer shall provide respirators, and ensure that they are used, where required by this section. Respirators shall be used in the following circumstances:

(i) During the interval necessary to install or implement feasible engineering and work practice controls;

(ii) In work operations such as maintenance and repair activities, or other activities for which engineering and work practice controls are not feasible;

(iii) In work situations where feasible engineering and work practice controls are not yet sufficient to reduce exposure to or below the exposure limit; and

(iv) In emergencies.

(2) *Respirator selection.* (i) Where respirators are used, the employer shall select and provide, at no cost to the employee, the appropriate respirator as specified in Table D-4, and shall ensure that the employee uses the respirator provided.

(ii) The employer shall select respirators from among those jointly approved as being acceptable for protection by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11.

(iii) The employer shall provide a powered, air-purifying respirator in lieu of any negative-pressure respirator specified in Table D-4 whenever:

(A) An employee chooses to use this type of respirator; and

(B) This respirator will provide adequate protection to the employee.

TABLE D-4.—RESPIRATORY PROTECTION FOR ASBESTOS, TREMOLITE, ANTHOPHYLLITE, AND ACTINOLITE FIBERS

Airborne concentration of asbestos, tremolite, anthophyllite, actinolite, or a combination of these minerals	Required respirator
Not in excess of 2 f/cc (10 X PEL).	1. Half-mask air-purifying respirator equipped with high-efficiency filters.
Not in excess of 10 f/cc (50 X PEL).	1. Full facepiece air-purifying respirator equipped with high-efficiency filters.
Not in excess of 20 f/cc (100 X PEL).	1. Any powered air purifying respirator equipped with high efficiency filters. 2. Any supplied-air respirator operated in continuous flow mode.
Not in excess of 200 f/cc (1000 X PEL).	1. Full facepiece supplied-air respirator operated in pressure demand mode.
Greater than 200 f/cc (>1,000 X PEL) or unknown concentration.	1. Full facepiece supplied air respirator operated in pressure demand mode equipped with an auxiliary positive pressure self-contained breathing apparatus.

NOTE: a. Respirators assigned for higher environmental concentrations may be used at lower concentrations.
b. A high-efficiency filter means a filter that is at least 99.97 percent efficient against mono-dispersed particles of 0.3 micrometers in diameter or larger.

(3) *Respirator program.* (i) Where respiratory protection is used, the employer shall institute a respirator program in accordance with 29 CFR 1910.134(b), (d), (e), and (f).

(ii) The employer shall permit each employee who uses a filter respirator to