

4620.3597 PHASE CONTRAST MICROSCOPY.

Subpart 1. **Phase contrast microscopy air sample analysis.** Analysis by phase contrast microscopy must comply with National Institute for Occupational Safety and Health (NIOSH) Method 7400, revision number 3, titled "Fibers" published in the NIOSH Manual of Analytical Methods, Third Edition, August 1994 supplement or equivalent methods. This document is incorporated by reference, is not subject to frequent change, and is available through the Minitex interlibrary loan system.

Subp. 2. **Procedures for establishing an alternative indoor air standard.** When collecting air monitoring samples to establish an alternative indoor air standard, the procedures in this part apply.

A. An alternative indoor air standard may be established only if background fiber levels in the asbestos work area exceed the indoor air standard before the start of abatement.

B. To establish an alternative indoor air standard, five air monitoring samples must be collected simultaneously and analyzed according to this part before the start of abatement including area preparation.

C. The alternative indoor air standard must be calculated as the upper bound of the range defined by the 95 percent confidence interval from the average of the result of the five indoor air monitoring samples.

D. Locations for air monitoring sample collection must be selected to provide suitable data for comparison with indoor air monitoring samples collected after abatement begins. Sample locations must be indoors and within ten feet of where the containment will be constructed.

E. The alternative indoor air standard applies only to the containment area where the air samples used to establish the alternative indoor air standard were collected.

Subp. 3. **Air monitoring sample collection and analysis.** When phase contrast microscopy is used to analyze air monitoring samples:

A. air volumes drawn through the filter cassette must be sufficient to determine fiber concentrations to 0.01 fibers per cubic centimeter of air;

B. a volume of 2,000 liters must be drawn through the filter cassette, except as noted in item C; and

C. when a volume of 2,000 liters cannot be drawn through the filter cassette, subitems (1) to (5) apply.

(1) More fields must be counted than the 100 microscope field maximum which is specified in NIOSH method 7400.

(2) The maximum number of fields to be counted must be determined by dividing 2,000 liters by the volume filtered and multiplying the result by 100 fields.

(3) Additional segments of the filter must be used for counting.

(4) If the cumulative fiber count reaches 100 fibers before the maximum number of fields have been counted, the analysis must stop.

(5) The concentration must be calculated based on the number of fibers and the number of fields counted.

Subp. 4. **Transitional air monitoring sample analysis.** Between July 1, 1996, and July 1, 1997, air monitoring samples must be analyzed by:

A. a laboratory that is accredited by the American Industrial Hygiene Association;

B. an analyst considered proficient by the American Industrial Hygiene Association's asbestos analyst registry program; or

C. a laboratory considered proficient in asbestos analysis by the American Industrial Hygiene Association (AIHA) Proficiency Analytical Testing (PAT) Program for phase contrast microscopy.

Subp. 5. **Air sample analysis.** Beginning July 1, 1997, air monitoring samples must be analyzed by:

A. a laboratory that is accredited by the American Industrial Hygiene Association; or

B. an analyst considered proficient by the American Industrial Hygiene Association's asbestos analyst registry program.

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