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Asbestos Standard for General Industry



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About This Pamphlet

The information contained in this pamphlet is not considered as a substitute for any provisions of the Occupational Safety and Health Act of 1970 or for any standards issued by the Occupational Safety and Health Administration.

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Asbestos is a widely used, mineral-based material that is resistant to heat and corrosive chemicals. Depending on the chemical composition, fibers may range in texture from coarse to silky. The properties which make asbestos fibers so valuable to industry are its high tensile strength, flexibility, heat and chemical resistance, and good frictional properties.

Asbestos fibers are carried into the body as airborne particles. These fibers can become embedded in the tissues of the lung and digestive system. Once the fibers become trapped in the lung's alveoli (air sacs), they cannot be removed.

Years of exposure to asbestos has caused a number of disabling and fatal diseases. Among these are asbestosis, an emphysema-like condition; lung cancer; mesothelioma, a cancerous tumor that spreads rapidly in the cells of membranes covering the lungs and body organs; and gastrointestinal cancer which is caused by ingesting asbestos-contaminated food.

Recognizing the danger of asbestos levels in the workplace, the Occupational Safety and Health Administration developed a more protective regulation that reduces the permissible exposure limit and prescribes a separate standard for general industry and for construction.

This booklet discusses OSHA's new requirements for general industry and describes the steps an employer must take to reduce the levels of asbestos, tremolite, anthophyllite, actinolite, or a combination of these minerals in the workplace. The remainder of this pamphlet will refer to these materials as asbestos.

Exposure

OSHA's new standard reduces employee exposure to asbestos to 0.2 fiber per cubic centimeter of air (f/cc) averaged over an 8-hour day. The new standard also sets an action level; it is 0.1 f/cc averaged over 8 hours. If this level is exceeded, employers must begin compliance activities such as air monitoring, employee training, and medical surveillance.

Monitoring

Employers are to perform initial monitoring at each workplace for each job classification to determine the airborne concentrations of asbestos to which employees may be exposed. If exposures are above the action level, periodic monitoring must be conducted at intervals no

greater than every 3 months. If either initial or periodic monitoring indicates that employee exposures are below the action level, the employer may discontinue monitoring for those employees whose exposures are represented by such monitoring. The employer must initiate monitoring whenever there has been a change in the production, process, control equipment, personnel or work practices that may result in new or additional exposures to asbestos, or in the production, process, control equipment, personnel or work practices that may result in new or additional exposures to asbestos. Employees must be allowed to observe monitoring and must be notified within 15 working days after the receipt of the results of monitoring.

Regulated Areas

The employer must establish a regulated area in those areas where airborne concentrations of asbestos exceed the permissible exposure limit (PEL). Only authorized personnel may enter regulated areas. No smoking, eating, drinking, or applying cosmetics is permitted in regulated areas. Warning signs must be displayed at each regulated area and must be posted at all approaches to regulated areas. These signs must bear the following information:

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

Caution labels must be placed on all raw materials, mixtures, scrap, waste, debris, and other products containing asbestos fibers. The label must include the following information:

**DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD**

Work Practices

To help reduce worker exposure to airborne fibers, asbestos must be handled, mixed, applied, removed, cut, scored or otherwise worked in a wet state. This "wet" method must also be used when products containing asbestos are removed from bags, cartons, or containers. If this is not possible, removal must be done in an enclosed or well ventilated area.

Asbestos containing materials must not be applied by spray methods. Compressed air can be used to remove asbestos or asbestos containing materials only if the compressed air is used in conjunction with an enclosed ventilated system designed to capture the dust cloud created by the compressed air.

Housekeeping

All surfaces must be maintained as free as practicable of accumulations of asbestos-containing dust and waste. Floors and other surfaces contaminated with asbestos should only be cleaned by vacuuming and/or wet cleaning methods. Where vacuuming and/or wet cleaning are not feasible, shoveling, dry sweeping and dry clean-up of asbestos may be used. The use of compressed air for cleaning purposes is prohibited. Asbestos waste, scrap, debris, bags, containers, and equipment must be disposed of in sealed impermeable bags or containers.

Methods of Compliance

To the extent feasible, engineering and work practice controls must be used to reduce employee exposure to within the PEL. Respirators may be used where engineering controls have been instituted but are insufficient to reduce exposure to the required level. The employer must establish and implement a written program to reduce employee exposure to or below the PEL by means of engineering and work practice controls and by the use of respirators. Written plans for a program must be available upon request to the Assistant Secretary for the Occupational Safety and Health Administration (OSHA), the Director of the National Institute for Occupational Safety and Health (NIOSH), employees and employee representatives. These plans must be reviewed and updated as necessary to reflect significant changes in the compliance program. Employee rotation cannot be used as a means of compliance with the permissible exposure limit.

Respiratory Protection

Respirators must be used (1) while feasible engineering and work practice controls are being installed or implemented, (2) during maintenance and repair activities or other activities where engineering and work practice controls are not feasible; (3) if feasible engineering and work practice controls are insufficient to reduce employee exposure; and (4) in emergencies. Respirators must be selected according to the provisions of Title 30, CFR (Code of Federal Regulations), Part 11. The employers must develop a respirator program in accordance with General Industry Standards 29 CFR 1910.134.

Employees who use a filter respirator must change filters whenever an increase in breathing resistance is detected. Employees who wear respirators must be allowed to wash their face and respirator facepiece whenever necessary to prevent skin irritation associated with respirator use. An employee must not be assigned to tasks requiring the use of respirators if a physician determines that the employee is unable to function normally wearing a respirator or that the employee's safety and health or that of others would be affected by the employee's use of a respirator. In this case, the employer must assign the employee to another job or give the employee the opportunity to transfer to a different job which does not require the use of a respirator. The job must be with the same employer, in the same geographical area, and with the same seniority, status, and rate of pay, if such a position is available.

The employer must assure that a respirator issued to an employee fits properly and exhibits minimum facepiece leakage. Employers must also perform quantitative or qualitative fit tests at the time of initial fitting and at least every six months for each employee wearing negative pressure respirators.

Protective Clothing

For any employee exposed to airborne concentrations of asbestos that exceed the PEL, the employer must provide and require the use of protective clothing such as coveralls or similar full-body clothing, head coverings, gloves, and foot coverings. Wherever the possibility of eye irritation exists, face shields, vented goggles, or other appropriate protective equipment must be provided and worn.

Asbestos contaminated work clothing must be removed in change rooms and placed and stored in closed containers which prevent dispersion of asbestos into the ambient environment. Protective clothing and equipment must be cleaned, laundered, repaired or replaced to maintain their effectiveness. The employer must inform any person who launders or cleans asbestos contaminated clothing or equipment of the potentially harmful effects of exposure to asbestos. Contaminated clothing and equipment must be transported in sealed impermeable bags or other closed impermeable containers and appropriately labeled.

Hygiene Facilities and Practices

Employees who are required to work in regulated areas must be provided with clean change rooms, shower facilities, and lunchrooms. Change rooms must have two lockers—one for contaminated clothing, the other for street clothing. Employees must shower at the end of the shift and cannot leave the workplace wearing any clothing or equipment used during the workshift. Lunchroom facilities must have a positive pressure filtered air supply and must be readily accessible to employees. The employer must ensure that employees wash their hands prior to eating, drinking or smoking.

Information and Training

The employer must develop a training program for all employees who are exposed to airborne concentrations of asbestos at or above the action level. Training must be provided prior to or at the time of initial assignment and at least yearly thereafter. The training program must inform employees about the health hazards of asbestos exposure; the relationship between asbestos and smoking in producing lung cancer; operations which could result in asbestos exposure; engineering controls and appropriate work practices associated with the employee's job assignment; purpose, proper use and limitations of respirators and protective clothing; the medical surveillance program; emergency and clean-up procedures; and a review of the procedures contained in 29 CFR 1910.1001. All training materials must be available to the employee without cost and, upon request, to the Assistant Secretary of OSHA and the Director of NIOSH.

Medical Surveillance

The employer must establish a medical surveillance program for all employees who are exposed to airborne concentrations of asbestos at or above the action level. All examinations must be performed under the supervision of a licensed physician and shall be provided without cost to the employee and at a reasonable time and place. Examinations must include a complete physical examination with emphasis on the respiratory system, the cardiovascular system and digestive tract; completion of a respiratory disease questionnaire; a chest X-ray; and pulmonary function tests. These examinations must be made available annually following the employee's first exposure to asbestos. If the employee is terminated, the employee must be examined within 30 days before or after the date of termination. The employer must give the examining physician a copy of the standard and appendices; a description of the employee's duties relating to the employee's asbestos exposure; the exposure level or anticipated exposure level; a description of any personal protective and respiratory equipment used or to be used; and information from previous medical examinations. The employer must obtain a written signed opinion from the physician which contains: the results of the medical examination and the physician's opinion as to whether the employee has any detected medical conditions that would place the employee at an increased risk from exposure to asbestos, any recommended limitations on the employee or upon the use of personal protective equipment such as clothing or respirators, and a statement that the employee has been informed by the physician of the results of the medical examination. The physician is not to reveal in the written opinion given to the employer specific findings or diagnoses unrelated to occupational exposure to asbestos. The employer must provide a copy of the physician's written opinion to the affected employee within 30 days after its receipt.

Recordkeeping

The employer must keep an accurate record of all measurements taken to monitor employee exposure to asbestos. This record is to include: the date of measurement, operation involving exposure, sampling and analytical methods used, and evidence of their accuracy; number, duration, and results of samples taken; type of respiratory protective devices worn; name, social security number, and the results of all employee exposure measurements. This record must be kept for 30 years.

The employer must maintain an accurate record for each employee subject to medical surveillance. The record must include: the name and social security number of the employee; physician's written opinions; any employee medical complaints related to exposure to asbestos; and information provided to the examining physician as described under medical surveillance. This record must be maintained for the duration of employment plus 30 years.

The employer must maintain all employee training records for one year beyond the last date of employment by that employee.

All records must be made available to the OSHA Assistant Secretary, the Director of NIOSH, affected employees, former employees, and designated representatives. When the employer ceases to do business and there is no successor to receive the records for the prescribed period, the employer must notify the Director of NIOSH at least 90 days prior to disposal of records.

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* These states and territories operate their own OSHA-approved job safety and health programs (except Connecticut and New York whose plans cover public employees only)

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