

Guidelines for a regulation on the Safe and Responsible Use of Chrysotile Asbestos

The Asbestos Institute
September 1999

General Principles

Activities involving a risk of occupational exposure to asbestos should include, in particular:

- a) mining and milling of minerals containing asbestos;
- b) manufacture of materials or products containing asbestos;
- c) use or application of products containing asbestos;
- d) stripping, repair or maintenance of products containing asbestos;
- e) demolition or repair of plant or structure containing asbestos;
- f) transportation, storage and handling of asbestos or materials containing asbestos;
- g) other activities involving a risk of exposure to airborne asbestos dust.

The competent legislative authority should consult the most representative organizations of employers and workers concerned on the measures to be taken to enforce the controlled-use policy.

The employers are responsible for the implementation of prescribed measures. Workers are required to comply with prescribed safety and hygiene procedures relating to the control and prevention of health hazards due to occupational exposure to asbestos.

Fibres and Products

All products using chrysotile fibres in high density products (defined as products that when dry cannot be crumbled, pulverized or reduced to powder by hand pressure) should be allowed. For example: asbestos-cement pipe and sheet, brake linings, gaskets, roof coatings and textiles (treated).

The marketing and use of amosite and crocidolite fibres and products containing these fibres should be prohibited.

Spraying of all forms of asbestos in buildings should be prohibited.

Other low density products using all forms of asbestos should be prohibited: i.e. boiler and pipe lagging, toys, low density jointing compounds and untreated textiles.

Protective and Preventive Measures

Permissible Exposure Limit (PEL)

Employers should ensure that no employee is exposed to an airborne concentration of asbestos in excess of 2 fibres per cubic centimeter of air on an eight-hour time-weighted average, as determined by the World Health Organization reference method *Determination of airborne fibre number concentrations* or an equivalent reference method. As soon as possible, the PEL should be lowered to 1 fibre/cc of air on an eight-hour time-weighted average.

The employer should measure the concentrations of airborne asbestos dust in the workplace and monitor the exposure of workers to asbestos at regular intervals using methods specified by the competent authority. The workers concerned, their representatives and the inspection services should have access to these records and participate in the process.

Work Clothing and Respiratory Protection Equipment

In industries using asbestos, the employer should provide appropriate work clothing, which should not be worn outside the workplace. The employer should be responsible for cleaning, maintenance and storage of work clothing, special protective clothing and personal protective equipment.

Worker Education and Training

The competent authority should make appropriate arrangements, in consultation and collaboration with the most representative organizations of employers and workers concerned, to promote the dissemination of information and the education of all concerned with regard to health hazards due to exposure to asbestos and to methods of prevention and control.

Labeling

Proper labeling with specific pictograms and warning phrases, in the country's language, should be placed on asbestos fibre bags and asbestos containing products in order to inform users not to generate dust by using proper equipment.

Public buildings should display prominent warning signs in strategic areas where friable asbestos-containing products are installed in the building.

Demolition or renovation of buildings or structures containing friable asbestos insulation materials should be undertaken only by employers or contractors who are recognized by the competent authority and by properly trained workers.

Waste Handling and Disposal

Employers should dispose of waste containing asbestos in a manner that does not pose a health risk to the workers concerned or the population in the vicinity of the enterprise. Disposal at approved landfills and prompt burial under various levels of material apply to friable asbestos waste. Waste containing high density products are disposed of in ordinary landfills used for construction materials.

Transportation

Any asbestos dust or waste consisting of friable material containing asbestos must be stored and transported in airtight containers.

Prevention of Environment Pollution

Appropriate measures should be taken by the competent authority and by employers to prevent pollution of the general environment by asbestos dust released from the workplace.

Medical Surveillance

Workers who are, or have been, exposed to asbestos in their occupational activities should be provided, in accordance with national laws and practices, with such medical examinations as are necessary to supervise their health in relation to the occupational hazard, and to diagnose occupational diseases caused by exposure to asbestos. The medical records should be kept for a period of not less than 30 years. For the prevention of disease and functional impairment related to exposure to asbestos, all workers assigned to work involving asbestos exposure should be provided with:

- a) a pre-assignment medical examination;
- b) periodic medical examinations at appropriate intervals (at least every 3 years);
- c) other tests and investigations, in particular chest radiographs and lung function test, which may be necessary to supervise their state of health in relation to the occupational hazard and to identify early indicators of disease caused by asbestos;
- d) a copy of their medical record.

Inspection

The enforcement of a law/regulation on asbestos should be secured by an adequate system of inspection. These inspections can be made by a recognized independent laboratory in the field of dust monitoring or by a government agency.

Substitution

Where necessary to protect the health of workers and technically practicable, national laws should provide replacement for asbestos by a proven less harmful material. However, presently there is no report that permits evaluation of the comparative toxicity of either chrysotile or its substitutes through inhalation by animals at comparable fibre concentrations of long fibres and comparable mass concentrations. Until comparative data is available, there is little scientific basis for assessing the risk of chrysotile when used with the controls today in comparison with any substitutes used to replace chrysotile asbestos.

Since no toxicological or epidemiological study on alternative fibres demonstrate that these products are safer than chrysotile asbestos, and animal studies show that most of them are probably or possibly carcinogenic to humans, regulations regarding all preventive and control measures based on a product life-cycle approach for chrysotile should apply to **all** natural and man-made respirable fibres.

N.B.: For more detailed information, please refer to ILO Code of Practice:
Safety in the Use of Asbestos.