

Title 29—Labor

of the 8-hour time-
ge airborne concentra-
e ceiling concentrations
rs.

g frequency and pat-
e initial determinations
ragraph (f)(1) of this
s shall be of such fre-
attern as to represent
e accuracy the levels of
e employees. In no case
be at intervals greater
s for employees whose
sbestos may reasonably
exceed the exposure
ed in paragraph (b) of

observation of moni-
employees, or their
shall be given a rea-
tunity to observe any
uired by this paragraph
access to the records

signs and labels—(1)

—(i) Posting. Caution
provided and displayed
on where airborne con-
asbestos fibers may be
ne exposure limits pre-
agraph (b) of this sec-
all be posted at such a
such a location so that
may read the signs and
protective steps before
rea marked by the signs.
posted at all approaches
lining excessive concen-
orne asbestos fibers.

ifications. The warning
by paragraph (g)(1)(i)
shall conform to the
of 20" x 14" vertical
ns specified in
, and to this subdivi-
s shall display the fol-
in the lower panel, with
i styles of a visibility at
that specified in this

	Notation
1" Sans Serif, Gothic or Block.	
1/2" Sans Serif, Gothic or Block.	
1/4" Gothic.	
1/8" Gothic.	

Chapter XVII—Occupational Safety and Health Administration § 1910.1001

Legend	Notation
Do Not Remain in Area Unless Your Work Requires It. Breathing Asbestos Dust May Be Hazardous To Your Health.	1/4" Gothic. 14 point Gothic.

Spacing between lines shall be at least
equal to the height of the upper of
any two lines.

(2) *Caution labels*—(i) *Labeling*. Cau-
tion labels shall be affixed to all raw
materials, mixtures, scrap, waste,
debris, and other products containing
asbestos fibers, or to their containers,
except that no label is required where
asbestos fibers have been modified by
a bonding agent, coating, binder, or
other material so that during any rea-
sonably foreseeable use, handling,
storage, disposal, processing, or trans-
portation, no airborne concentrations
of asbestos fibers in excess of the ex-
posure limits prescribed in paragraph
(b) of this section will be released.

(ii) *Label specifications*. The caution
labels required by paragraph (g)(2)(i)
of this section shall be printed in let-
ters of sufficient size and contrast as
to be readily visible and legible. The
label shall state:

CAUTION

Contains Asbestos Fibers

Avoid Creating Dust

Breathing Asbestos Dust May Cause Serious
Bodily Harm

(h) *Housekeeping*—(1) *Cleaning*. All
external surfaces in any place of em-
ployment shall be maintained free of
accumulations of asbestos fibers. If,
with their dispersion, there would be
an excessive concentration.

(2) *Waste disposal*. Asbestos waste,
scrap, debris, bags, containers, equip-
ment, and asbestos-contaminated
clothing, consigned for disposal, which
may produce in any reasonably fore-
seeable use, handling, storage, process-
ing, disposal, or transportation air-
borne concentrations of asbestos fibers
in excess of the exposure limits pre-
scribed in paragraph (b) of this section
shall be collected and disposed of in
sealed impermeable bags, or other
closed, impermeable containers.

(i) *Recordkeeping*—(1) *Exposure*.
records. Every employer shall main-

tain records of any personal or envi-
ronmental monitoring required by this
section. Records shall be maintained
for a period of at least 20 years and
shall be made available upon request
to the Assistant Secretary of Labor for
Occupational Safety and Health, the
Director of the National Institute for
Occupational Safety and Health, and
to authorized representatives of
either.

(2) *Access*. Employee exposure
records required by this paragraph
shall be provided upon request to em-
ployees, designated representatives,
and the Assistant Secretary in accord-
ance with 29 CFR 1910.20 (a)-(e) and
(g)-(1).

(3) *Employee notification*. Any em-
ployee found to have been exposed at
any time to airborne concentrations of
asbestos fibers in excess of the limits
prescribed in paragraph (b) of this sec-
tion shall be notified in writing of the
exposure as soon as practicable but
not later than 5 days of the finding.
The employee shall also be timely no-
tified of the corrective action being
taken.

(j) *Medical surveillance*. Gen-
eral. The employer shall make avail-
able at his cost, medical ex-
aminations relative to exposure to as-
bestos required by this paragraph.

(2) *Preplacement*. The employer
shall provide or make available to
each of his employees, within 30 calen-
dar days following his first employ-
ment in an occupation exposed to air-
borne concentrations of asbestos
fibers, a comprehensive medical exam-
ination, which shall include, as a mini-
mum, a chest roentgenogram (posteri-
or-anterior 14 x 17 inches), a history
to elicit symptomatology of respira-
tory disease, and pulmonary function
tests to include forced vital capacity
(FVC) and forced expiratory volume
at 1 second (FEV₁).

(3) *Annual examinations*. On or
before January 31, 1973, and at least
annually thereafter, every employer
shall provide, or make available, com-
prehensive medical examinations to
each of his employees engaged in occu-
pations exposed to airborne concentra-
tions of asbestos fibers.

or-anterior 14 x 17 inches), a history to elicit symptomatology of respiratory disease, and pulmonary function tests to include forced vital capacity (FVC) and forced expiratory volume at 1 second (FEV_{1.2}).

(4) *Termination of employment.* The employer shall provide, or make available, within 30 calendar days before or after the termination of employment of any employee engaged in an occupation exposed to airborne concentrations of asbestos fibers, a comprehensive medical examination which shall include, as a minimum, a chest roentgenogram (posterior-anterior 14 x 17 inches), a history to elicit symptomatology of respiratory disease, and pulmonary function tests to include forced vital capacity (FVC) and forced expiratory volume at 1 second (FEV_{1.2}).

(5) *Recent examinations.* No medical examination is required of any employee, if adequate records show that the employee has been examined in accordance with this paragraph within the past 1-year period.

(6) *Medical records.*—(i) *Maintenance.* Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be retained by employers for at least 30 years.

(ii) *Access.* Records of the medical examinations required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon the request to the Director of NIOSH. Any physician who conducts a medical examination required by this paragraph shall furnish to the employer of the examined employee all the information specifically required by this paragraph, and any other medical information related to occupational exposure to asbestos fibers.

(k) *Emergency temporary standard effective November 4, 1983.*—(1) *Scope.* This emergency temporary standard is issued pursuant to section 6(c) of the Act and applies to all workplaces where employees may be exposed to

asbestos in all industries covered by the Act, including, general industry, construction and maritime. Except to the extent modified by this emergency temporary standard all provisions of § 1910.1001 remain in effect.

(2) *Permissible levels of exposure.* The 8-hour time-weighted average airborne concentration of asbestos fibers to which any employee may be exposed shall not exceed one-half (0.5) fiber, longer than 5 micrometers, per cubic centimeter of air, as determined by the method prescribed in paragraph (e) of this section.

(3) *Methods of compliance with the emergency temporary standard.* Notwithstanding any other requirements of this section, compliance with the reduced exposure limit of 0.5 f/cc shall be achieved by any feasible combination of engineering controls, work practices, and personal protective equipment and devices.

(4) *Employee information and training.*—(i) As soon as possible, but not later than thirty (30) days from the effective date of this emergency temporary standard, the employer shall institute a training program for all employees exposed to airborne concentrations of asbestos in excess of 0.5 f/cc, without regard to the use of respirators and shall assure their participation in the program during the effective period of this emergency temporary standard.

(ii) The employer shall assure that each such employee is informed of the following:

(A) The health effects associated with asbestos exposure;

(B) The relationship between asbestos and smoking in producing lung cancer;

(C) The nature of operations which could result in exposure to asbestos and necessary protective steps to minimize exposure including, as applicable, engineering controls, work practices, respirators, housekeeping and protective clothing;

(D) The purpose, proper use, fitting instructions and limitations of respirators permitted by the standard; and

(E) A review of all the provisions contained in 1910.1001.

(5) *Respiratory protection during the ETS.* Notwithstanding any other

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§ 1910.100
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Condition	Industry and/or occupation	Symptoms	Agent	Log column
Noise effects on inner ear ...	Any industry and/or occupation involving exposure to excessive noise.	Tinnitus—hissing, ringing, buzzing, humming, thumping, whistling, or roaring in the ear—may be constant or intermittent and often accompanied by hearing loss. Clicking, cracking, or ticking sounds or abnormal or pathological sounds, originating within the patient's body (by a muscle contraction, etc.) in region of the ear and audible to others as well as to the patient.	Excessive noise	7f
Raynaud's phenomenon (secondary).....	Lumberjacks, chain sawyers, grinders, chippers, vinyl chloride polymerization industry.	Intermittent pallor and sometimes bluish-purple discoloration (cyanosis) of the skin precipitated by exposure to cold, without clinical evidence of blockage of the large peripheral vessels and with nutritional lesions (if present at all, limited to the skin). Blanching and numbness when exposed to chilling weather or emotional upsets with probable loss of muscular control and reduction of sensitivity to heat, cold, and pain are main symptoms. Cyanosis and pain are rare. Gangrene and serious complications are very rare if, indeed, they occur at all.	Whole body or segmental vibration; vinyl chloride monomer	7f
Extrinsic allergic alveolitis ...	Farmer's lung, bagassosis, bird fancier's lung, suberosis, malt worker's lung, mushroom worker's lung, maple bark disease, cheese washer's lung, coffee worker's lung, fish-meal worker's lung, furrier's lung, sequonosis, wood worker's lung, miller's lung.	Difficult or labored breathing (dyspnea); fever; and oxygen deficiency (hypoxia) during acute phase lasting several weeks. Cough with scanty, black, stringy, occasionally bloody sputum; bluish-purple discoloration of mucous membranes (cyanosis); patchy infiltrates in the lung can also occur.	Various agents (usually a fungus or mold and dusty substances).....	7g
Extrinsic asthma or allergic asthma	Jewelry, alloy and catalyst makers; polyurethane, adhesive, paint workers; alloy, catalyst, refinery workers; solderers; plastic, dye, insecticide makers; foam workers; latex makers; biologists; printing industry; nickel platers; bakers; plastics industry; woodworkers; furniture makers; detergent formulators.	Sudden onset after exposure to an allergen. Sense of tightness in the chest due to spasmodic contraction of the bronchi; difficult or labored breathing (dyspnea); wheezing. Symptoms may subside in one hour or less, continue for several hours, or persist as status asthmaticus for many days. End of attack is marked by pronounced coughing with expectoration of thick, tenacious sputum, immediately followed by a sensation of relief and "clearing" of the air passages. Physical signs consist of prolongation of expiration and the presence of sonorous and sibilant rales throughout the chest; normal but labored respiration; markedly distended chest; bluish-purple discoloration of skin and mucous membranes (cyanosis). Between attacks breathing may be quiet, but forced expiration will produce sonorous or sibilant rales. Frequency and severity of attacks may be greatly influenced by secondary factors (e.g., changes in temperature and humidity); by exposure to noxious fumes; by fatigue; by endocrine changes (puberty, menstruation, pregnancy, menopause); by emotional stress. Since these secondary factors may perpetuate attacks, attention should be directed to their control.	Platinum; isocyanates; chromium and cobalt; aluminum soldering flux; phthalic anhydride; formaldehyde; gum arabic; N_2SO_4 ; flour; trimellitic anhydride; red cedar and other wood dusts; bacillus-derived exoenzymes ..	7e
Coalworkers pneumoconiosis	Coal miners.	Black spit increasing in quantity as disease advances; jet-black nodules and cavities of the lung; chest becomes barrel-shaped and there may be clubbing of the fingers; right heart failure or silico-tuberculosis may supervene to cause death; disease is visualized by X-ray as fine, discrete pinhead mottling or nodulation or dense conglomerate shadows resembling angel's wings; eventually large fibrotic masses develop and difficult or labored breathing with cough may ensue.	Coal dust	7b
Asbestosis	Asbestos industries and utilizers.	Progressive, difficult, or labored breathing (dyspnea); nonproductive cough (little or no sputum), unless pulmonary TB is present yielding bloodstained sputum; slight pain between shoulders, under shoulder blades, or sternum; visualized by X-ray as fine pulmonary fibrosis enmeshed with asbestos bodies giving a ground glass appearance; increased susceptibility to lung cancer; pleural plaques and calcifications are often present in the fibrous tissues and emphysema is extensive, but localized to lower and apical parts of the lungs.	Asbestos	7b

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Bureau of Labor Statistics
Log and Summary of Occupational
Injuries and Illnesses

19970 The form is required by Public Law 95-601 and must be kept in the establishment for 3 years. Failure to maintain and post one result in the suspension of operation and cessation of operations. (See preceding requirements on the other side of this form.)

Energy Management

Energy Management

Energy Auditing

New Calendar Year 10

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Form Approved
GSA GEN. REG. NO. 27

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On the Question of American Democracy

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