

- (3) Magnesium arsenate.
- (4) Sodium arsenite.
- (5) Zinc arsenate.
- (6) Zinc arsenite.
- (7) Zinc fluoroarsenate.
- f. Manufacturers of desiccants.
Example: Orthoarsenic acid.
- g. Manufacturers of wood preservatives.
Some examples of these products are as follows:
 - (1) Ammoniacal copper arsenite.
 - (2) Chromated copper arsenate.
 - (3) Mixture of chlorinated arsenate, fluoride and phenolic salts in aqueous solution.
 - (4) Zinc-chromium arsenate.
 - (5) Copperized zinc-chromium arsenate.
 - (6) Fluorochrome arsenate phenol.
- h. Manufacturers of feed additives.
Some examples of these products are as follows:
 - (1) Arsanilic acid.
 - (2) 3-Nitro-4-hydroxyphenylarsonic acid.
 - (3) 4-Nitrophenylarsonic acid.
 - (4) 4-Ureido-1-phenylarsonic acid.
- i. Manufacturers of pharmaceuticals for use in veterinary medicine.
Some examples of these products are as follows:
 - (1) Acetarsamide.
 - (2) Carbarsone.
 - (3) Dichlorophenarsine.
 - (4) Lead arsenate.
 - (5) Melarsonyl.
 - (6) Neoarsphenamine.
 - (7) Thiacetarsamide (Caparsolate).
- j. Manufacturers of glass that use arsenic trioxide as a refining agent and a decolorizer.
- k. Manufacturers of alloys of nonferrous metals and arsenic.
Some examples of products manufactured from these alloys are as follows:
 - (1) Lead shot.
 - (2) Cable sheathing (lead and arsenic).
 - (3) Battery grids (lead and arsenic).
 - (4) Battery electrodes (lead and arsenic).
 - (5) Speculum metal.
 - (6) Boiler tubes (Copper and arsenic).
 - (7) Arsenic bronze.
 - (8) Special solders such as used on body joints and seams in the automobile industry.
 - (9) Arsenic brass.
 - (10) Arsenical Babbitt.
- l. Users of solders that contain arsenic as a component in the alloy.
Example: Automobile and truck body manufacturers.
- m. Manufacturers and/or users of arsenic-based flotation reagents.
- n. Miscellaneous.
Arsenic and/or arsenic-containing, inorganic compounds are used in each of the following types of establishments. However, every employer does not necessarily use them.

- (1) Leather tanneries.
- (2) Manufacturers of ceramics and ceramic or vitreous enamel.
- (3) Manufacturers of aniline colors.
- (4) Manufacturers of pyrotechnics.
- (5) Manufacturers of semiconductors.

OSHA PROGRAM DIRECTIVE #300-16
October 11, 1978

TO: REGIONAL ADMINISTRATORS/OSHA

Subject: 29 CFR 1910.1001(j)(2) or (3) or (4), Minimum Airborne Fiber Concentration for Initiating and Continuing Asbestos Medical Examinations.

1. Purpose

The purpose of this directive is to provide uniform inspection and compliance procedures for the medical examination requirement in the asbestos standard, 29 CFR 1910.1001(j)(2), or (3) or (4).

2. Documentation Affected

This directive supplements and provides reference for the OSHA Industrial Hygiene Field Operations Manual (IHFOM) and the OSHA Field Operations Manual (FOM).

3. Background

In 29 CFR 1910.1001(j)(2), or (3) or (4), Medical examinations, the term "... exposed to airborne concentrations of asbestos fibers. . . ." has been the subject of considerable discussion and debate as to the meaning or interpretation of "airborne concentrations."

4. Action

a. Definition.

In 29 CFR 1910.1001(j)(2), or (3) or (4), Medical examinations, the term "... exposed to airborne concentrations of asbestos fibers. . . ." is administratively interpreted to mean exposed to a minimum of 0.1 asbestos fibers longer than 5 micrometers per cubic centimeter of air, as determined by the sampling method prescribed in section 4.c. of this directive. The phrase "fibers longer than 5 micrometers per cubic centimeter of air" shall hereafter be abbreviated as "fibers/cc."

b. Scope and applicability.

Medical examinations as per 29 CFR 1910.1001(j)(2), or (3) or (4) will be required for any 7- to 8-hour time-weighted average concentration of 0.1 fibers/cc, or for a greater concentration.

c. Sampling information.

(1) Sampling procedures will follow Chapter X of the IHFOM., with the additional guidance of 4.c.(2) and (3) of this directive.

(2) Exposure to asbestos dust with low levels of contamination (e.g., mixed with other minerals).

(a) For exposures to dust that is mostly asbestos and is expected to be below the permissible exposure limit, the same filter should be used for the entire shift, but no longer than 8 hours.

(b) For exposures expected to be at or above the permissible exposure limit, several samples may be re-

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quired during the shift to avoid overloading the filters.

(3) Exposures to asbestos dust with high levels of contamination.

(a) Several samples may be required during the shift to avoid overloading the filter.

(b) Filters should be changed only after a minimum of 1 hour of sampling time for exposures expected to be close to 0.1 fibers/cc. Seven or eight 1-hour samples can be collected during the day.

d. Examples of types of violations.

(1) Where an employer does not provide the required medical examinations, and an employee is exposed to 0.1 or more fibers/cc, it would be considered a "serious" violation of 29 CFR 1910.1001(j)(2), or (3) or (4).

(2) For definitions and guidance on "repeated," "willful," or a "failure to correct" violation, see the FOM, Chapter VIII.

5. Effective Date

This directive is effective immediately and will remain in effect until further notice.

OSHA Instruction CPL 2-2.20

April 2, 1979

Subject: Industrial Hygiene Field Operation Manual

A. *Purpose.* This instruction establishes the revised Industrial Hygiene Field Operation Manual (IHFOM) and incorporates it into the OSHA Directives System.

B. *Scope.* This instruction applies OSHA-wide.

C. *Cancellation.* This directive cancels OSHA-Instruction CPL 2-2.10, CPL 2-2.14 and the IHFOM dated June 1976.

D. Action.

1. All policies and procedures described in the IHFOM should be initiated as of April 30, 1979.

2. Two copies of this instruction appear in the IHFOM. One of these should be filed in new OSHA Directives System Binders.

E. *Federal Program Change.* This directive describes a Federal program change which affects State programs. Each Regional Administrator shall:

1. Ensure that this change is forwarded to each State designee.

2. Explain the technical content of the change to the State designee as requested.

3. Ensure that the state, within 30 days, submits a plan supplement, a timetable for adoption of such a supplement, or reasons why it is not necessary for the State to change its plan. States must not be allowed more than 6 months from the date of notification to formally submit the plan change supplement to the Region.

4. Review policies, instructions, and guidelines issued by the State to determine that this change has been communicated to state program personnel. Routine monitoring activities (accompanied inspections, spot check visits, and case file reviews) shall also be used to determine if this change has been implemented in actual performance.

OSHA Instruction CPL 2-2.25

May 8, 1979

Subject: Sampling Techniques and Laboratory Submittal Strategies

A. *Purpose.* This directs OSHA Compliance Officers to take samples in an efficient manner and prioritize samples submitted to the laboratory. It directs laboratory personnel to be selective about the samples analyzed and establishes a quality control program to ensure meaningful samples are not disregarded. It also establishes procedures to submit screening data to OMDS.

B. *Scope.* This instruction applies OSHA-wide.

C. Action.

1. Field Compliance Officers.

a. *Determining Types of Samples.* Before conducting full shift sampling for chemicals identified in Table 1, screening samples should be taken with detector tubes or other currently available direct reading instruments. When screening samples indicate exposures of less than 50 percent of the PEL, further sampling shall not be required. Detector tubes in Table 1 will be made available to the Regions from the Cincinnati Maintenance and Calibration Laboratory.

Table 1

Detector Tubes Available from MCL Substance Code

1. Acetone	0040
2. Benzene	0320
3. Ethyl Alcohol	1060
4. Formaldehyde	1290
5. Isopropyl Alcohol	1560
6. Methyl ethyl Ketone	0430
7. Methyl isobutyl Ketone	1385
8. Perchloroethylene (tetrachloroethylene)	2020
9. Trichloroethane (methyl chloroform)	1720
10. Trichloroethylene	2490
11. Toluene	2460
12. Vinyl Chloride	2580
13. Methylene chloride	1730
14. Xylene	2590

b. *Recording Screening Results.* The total number of screening tests taken for the above substances must be recorded and transmitted to the National Office for MIS purposes. As an interim measure, the Direct Reading Data OSHA-93 Form will be used for this purpose (see IHFOM Chapter 14). Although the Direct Reading Data Form was not designed with screening in mind, this form lends itself to recording the data required to determine by substance the total number of screening samples taken.

When the Direct Reading Data OSHA-93 Form is used to report screening tests the following information will be recorded on the form:

1. Print the word "SCREEN" at the top of the form.
2. Complete the following items on the form. See the example on Attachment A.

Item 7. Establishment Name