



Regulations (Standards - 29 CFR) - Table of Contents

- **Part Number:** 1910
- **Part Title:** Occupational Safety and Health Standards
- **Subpart:** Z
- **Subpart Title:** Toxic and Hazardous Substances
- **Standard Number:** 1910.1018
- **Title:** Inorganic arsenic.
- **Appendix:** A, B, C

1910.1018(a)

Scope and application. This section applies to all occupational exposures to inorganic arsenic except that this section does not apply to employee exposures in agriculture or resulting from pesticide application, the treatment of wood with preservatives or the utilization of arsenically preserved wood.

1910.1018(b)

Definitions.

Action level means a concentration of inorganic arsenic of 5 micrograms per cubic meter of air (5 ug/m(3)) averaged over any eight (8) hour period.

Assistant Secretary means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

Authorized person means any person specifically authorized by the employer whose duties require the person to enter a regulated area, or any person entering such an area as a designated representative of employees for the purpose of exercising the right to observe monitoring and measuring procedures under paragraph (e) of this section.

Director means the Director, National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designee.

Inorganic arsenic means copper aceto-arsenite and all inorganic compounds containing arsenic except arsine, measured as arsenic (As).

1910.1018(c)

Permissible exposure limit. The employer shall assure that no employee is exposed to inorganic arsenic at concentrations greater than 10 micrograms per cubic meter of air (10 ug/m(3)), averaged over any 8-hour period.

1910.1018(d)

[Reserved]

1910.1018(e)

Exposure monitoring -

1910.1018(e)(1)

General.

1910.1018(e)(1)(i)

Determinations of airborne exposure levels shall be made from air samples that are representative of each employee's exposure to inorganic arsenic over an eight (8) hour period.

1910.1018(e)(1)(ii)

For the purposes of this section, employee exposure is that exposure which would occur if the employee were not using a respirator.

1910.1018(e)(1)(iii)

The employer shall collect full shift (for at least 7 continuous hours) personal samples including at least one sample for each shift for each job classification in each work area.

1910.1018(e)(2)

Initial monitoring. Each employer who has a workplace or work operation covered by this standard shall monitor each such workplace and work operation to accurately determine the airborne concentration of inorganic arsenic to which employees may be exposed.

1910.1018(e)(3)

Frequency.

1910.1018(e)(3)(i)

If the initial monitoring reveals employee exposure to be below the action level the measurements need not be repeated except as otherwise provided in paragraph (e)(4) of this section.

1910.1018(e)(3)(ii)

If the initial monitoring, required by this section, or subsequent monitoring reveals employee exposure to be above the permissible exposure limit, the employer shall repeat monitoring at least quarterly.

1910.1018(e)(3)(iii)

If the initial monitoring, required by this section, or subsequent monitoring reveals employee exposure to be above the action level and below the permissible exposure limit the employer shall repeat monitoring at least every six months.

1910.1018(e)(3)(iv)

The employer shall continue monitoring at the required frequency until at least two consecutive measurements, taken at least seven (7) days apart, are below the action level at which time the employer may discontinue monitoring for that employee until such time as any of the events in paragraph (e)(4) of this section occur.

1910.1018(e)(4)

Additional monitoring. Whenever there has been a production, process, control or personal change which may result in new or additional exposure to inorganic arsenic, or whenever the employer has any other reason to suspect a change which may result in new or additional exposures to inorganic arsenic, additional monitoring which complies with paragraph (e) of this section shall be conducted.

1910.1018(e)(5)

Employee notification.

1910.1018(e)(5)(i)

The employer must, within 15 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to affected employees.

1910.1018(e)(5)(ii)

Whenever the results indicate that the representative employee exposure exceeds the permissible exposure limit, the employer shall include in the written notice a statement that the permissible exposure limit was exceeded and a description of the corrective action taken to reduce exposure to or below the permissible exposure limit.

1910.1018(e)(6)

Accuracy of measurement.

1910.1018(e)(6)(i)

The employer shall use a method of monitoring and measurement which has an accuracy (with a confidence level of 95 percent) of not less than plus or minus 25 percent for concentrations of inorganic arsenic greater than or equal to 10 ug/m(3).

1910.1018(e)(6)(ii)

The employer shall use a method of monitoring and measurement which has an accuracy (with confidence level of 95 percent) of not less than plus or minus 35 percent for concentrations of inorganic arsenic greater than 5 ug/m(3) but less than 10 ug/m(3).

1910.1018(f)

Regulated area -

1910.1018(f)(1)

Establishment. The employer shall establish regulated areas where worker exposures to inorganic arsenic, without regard to the use of respirators, are in excess of the permissible limit.

1910.1018(f)(2)

Demarcation. Regulated areas shall be demarcated and segregated from the rest of the workplace in any manner that minimizes the number of persons who will be exposed to inorganic arsenic.

1910.1018(f)(3)

Access. Access to regulated areas shall be limited to authorized persons or to persons otherwise authorized by the Act or regulations issued pursuant thereto to enter such areas.

1910.1018(f)(4)

Provision of respirators. All persons entering a regulated area shall be supplied with a respirator, selected in accordance with paragraph (h)(2) of this section.

1910.1018(f)(5)

Prohibited activities. The employer shall assure that in regulated areas, food or beverages are not consumed, smoking products, chewing tobacco and gum are not used and cosmetics are not applied, except that these activities may be conducted in the lunchrooms, change rooms and showers required under paragraph (m) of this section. Drinking water may be consumed in the regulated area.

1910.1018(g)

Methods of compliance -

1910.1018(g)(1)

Controls.

1910.1018(g)(1)(i)

The employer shall institute at the earliest possible time but not later than December 31, 1979, engineering and work practice controls to reduce exposures to or below the permissible exposure limit, except to the extent that the employer can establish that such controls are not feasible.

1910.1018(g)(1)(ii)

Where engineering and work practice controls are not sufficient to reduce exposures to or below the permissible exposure limit, they shall nonetheless be used to reduce exposures to the lowest levels achievable by these controls and shall be supplemented by the use of respirators in accordance with paragraph (h) of this section and other necessary personal protective equipment. Employee rotation is not required as a control strategy before respiratory protection is instituted.

1910.1018(g)(2)

Compliance Program.

1910.1018(g)(2)(i)

The employer shall establish and implement a written program to reduce exposures to or below the permissible exposure limit by means of engineering and work practice controls.

1910.1018(g)(2)(ii)

Written plans for these compliance programs shall include at least the following:

1910.1018(g)(2)(ii)(A)

A description of each operation in which inorganic arsenic is emitted; e.g. machinery used, material processed, controls in place, crew size, operating procedures and maintenance practices;

1910.1018(g)(2)(ii)(B)

Engineering plans and studies used to determine methods selected for controlling exposure to inorganic arsenic;

1910.1018(g)(2)(ii)(C)

A report of the technology considered in meeting the permissible exposure limit;

1910.1018(g)(2)(ii)(D)

Monitoring data;

1910.1018(g)(2)(ii)(E)

A detailed schedule for implementation of the engineering controls and work practices that cannot be implemented immediately and for the adaption and implementation of any additional engineering and work practices necessary to meet the permissible exposure limit;

1910.1018(g)(2)(ii)(F)

Whenever the employer will not achieve the permissible exposure limit with engineering controls and work practices by December 31, 1979, the employer shall include in the compliance plan an analysis of the effectiveness of the various controls, shall install engineering controls and institute work practices on the quickest schedule feasible, and shall include in the compliance plan and implement a program to minimize the discomfort and maximize the effectiveness of respirator use; and

1910.1018(g)(2)(ii)(G)

Other relevant information.

1910.1018(g)(2)(iii)

Written plans for such a program shall be submitted upon request to the Assistant Secretary and the Director, and shall be available at the worksite for examination and copying by the Assistant Secretary, Director, any affected employee or authorized employee representatives.

1910.1018(g)(2)(iv)

The plans required by this paragraph must be revised and updated at least annually to reflect the current status of the program.

1910.1018(h)

Respiratory protection.

1910.1018(h)(1)

General. For employees who use respirators required by this section, the employer must provide each employee an appropriate respirator that complies with the requirements of this paragraph. Respirators must be used during:

1910.1018(h)(1)(i)

Periods necessary to install or implement feasible engineering or work-practice controls.

1910.1018(h)(1)(ii)

Work operations, such as maintenance and repair activities, for which the employer establishes that engineering and work-practice controls are not feasible.

1910.1018(h)(1)(iii)

(iii) Work operations for which engineering and work-practice controls are not yet sufficient to reduce employee exposures to or below the permissible exposure limit.

1910.1018(h)(1)(iv)

Emergencies.

1910.1018(h)(2)

Respirator program.

1910.1018(h)(2)(i)

The employer must implement a respiratory protection program in accordance with § 1910.134(b) through (d) (except (d)(1)(iii)), and (f) through (m), which covers each employee required by this section to use a respirator.

1910.1018(h)(2)(ii)

If an employee exhibits breathing difficulty during fit testing or respirator use, they must be examined by a physician trained in pulmonary medicine to determine whether they can use a respirator while performing the required duty.

1910.1018(h)(3)

Respirator selection.

1910.1018(h)(3)(i)

Employers must:

1910.1018(h)(3)(i)(A)

Select, and provide to employees, the appropriate respirators specified in paragraph (d)(3)(i)(A) of 29 CFR 1910.134.

1910.1018(h)(3)(i)(B)

Ensure that employees do not use half mask respirators for protection against arsenic trichloride because it is absorbed rapidly through the skin.

1910.1018(h)(3)(i)(C)

Provide HEPA filters for powered and non-powered air-purifying respirators.:

1910.1018(h)(3)(i)(D)

Select for employee use:

1910.1018(h)(3)(i)(D)(1)

Air-purifying respirators that have a combination HEPA filter with an appropriate gas-sorbent cartridge or canister when the employee's exposure exceeds the permissible exposure level for inorganic arsenic and the relevant limit for other gases.

1910.1018(h)(3)(i)(D)(2)

Front-or back-mounted gas masks equipped with HEPA filters and acid gas canisters or any full facepiece supplied-air respirators when the inorganic arsenic concentration is at or below 500 mg/m³; and half mask air-purifying respirators equipped with HEPA filters and acid gas cartridges when the inorganic arsenic concentration is at or below 100 µg/m³.

1910.1018(h)(3)(ii)

Employees required to use respirators may choose, and the employer must provide, a powered air-purifying respirator if it will provide proper protection. In addition, the employer must provide a combination dust and acid-gas respirator to employees who are exposed to gases over the relevant exposure limits.

1910.1018(i)

[Reserved]

1910.1018(j)

Protective work clothing and equipment -

1910.1018(j)(1)

Provision and use. Where the possibility of skin or eye irritation from inorganic arsenic exists, and for all workers working in regulated areas, the employer shall provide at no cost to the employee and assure that employees use appropriate and clean protective work clothing and equipment such as, but not limited to:

1910.1018(j)(1)(i)

Coveralls or similar full-body work clothing;

1910.1018(j)(1)(ii)

Gloves, and shoes or coverlets;

1910.1018(j)(1)(iii)

Face shields or vented goggles when necessary to prevent eye irritation, which comply with the requirements of 1910.133(a)(2)-(6); and (iv) Impervious clothing for employees subject to exposure to arsenic trichloride.

1910.1018(j)(2)

Cleaning and replacement.

1910.1018(j)(2)(i)

The employer shall provide the protective clothing required in paragraph (j)(1) of this section in a freshly laundered and dry condition at least weekly, and daily if the employee works in areas where exposures are over 100 ug/m(3) of inorganic arsenic or in areas where more frequent washing is needed to prevent skin irritation.

1910.1018(j)(2)(ii)

The employer shall clean, launder, or dispose of protective clothing required by paragraph (j)(1) of this section.

1910.1018(j)(2)(iii)

The employer shall repair or replace the protective clothing and equipment as needed to maintain their effectiveness.

1910.1018(j)(2)(iv)

The employer shall assure that all protective clothing is removed at the completion of a work shift only in change rooms prescribed in paragraph (m)(1) of this section.

1910.1018(j)(2)(v)

The employer shall assure that contaminated protective clothing which is to be cleaned, laundered, or disposed of, is placed in a closed container in the change-room which prevents dispersion of inorganic arsenic outside the container.

1910.1018(j)(2)(vi)

The employer shall inform in writing any person who cleans or launders clothing required by this section, of the potentially harmful effects including the carcinogenic effects of exposure to inorganic arsenic.

1910.1018(j)(2)(vii)

Labels on contaminated protective clothing and equipment.

1910.1018(j)(2)(vii)(A)

The employer shall ensure that the containers of contaminated protective clothing and equipment in the workplace or which are to be removed from the workplace are labeled and that the labels include the following information:

DANGER: CONTAMINATED WITH INORGANIC ARSENIC. MAY CAUSE CANCER. DO NOT REMOVE DUST BY BLOWING OR SHAKING. DISPOSE OF INORGANIC ARSENIC CONTAMINATED WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE OR FEDERAL REGULATIONS.

1910.1018(j)(2)(vii)(B)

Prior to June 1, 2015, employers may include the following information on containers of protective clothing and equipment in lieu of the labeling requirements in paragraphs (j)(2)(vii) of this section:

CAUTION: Clothing contaminated with inorganic arsenic; do not remove dust by blowing or shaking. Dispose of inorganic arsenic contaminated wash water in accordance with applicable local, State or Federal regulations.

1910.1018(j)(2)(viii)

The employer shall prohibit the removal of inorganic arsenic from protective clothing or equipment by blowing or shaking.

1910.1018(k)

Housekeeping -

1910.1018(k)(1)

Surfaces. All surfaces shall be maintained as free as practicable of accumulations of inorganic arsenic.

1910.1018(k)(2)

Cleaning floors. Floors and other accessible surfaces contaminated with inorganic arsenic may not be cleaned by the use of compressed air, and shoveling and brushing may be used only where vacuuming or other relevant methods have been tried and found not to be effective.

1910.1018(k)(3)

Vacuuming. Where vacuuming methods are selected, the vacuums shall be used and emptied in a manner to minimize the reentry of inorganic arsenic into the workplace.

1910.1018(k)(4)

Housekeeping plan. A written housekeeping and maintenance plan shall be kept which shall list appropriate frequencies for carrying out housekeeping operations, and for cleaning and maintaining dust collection equipment. The plan shall be available for inspection by the Assistant Secretary.

1910.1018(k)(5)

Maintenance of equipment. Periodic cleaning of dust collection and ventilation equipment and checks of their effectiveness shall be carried out to maintain the effectiveness of the system and a notation kept of the last check of effectiveness and cleaning or maintenance.

1910.1018(l)

[Reserved]

1910.1018(m)

Hygiene facilities and practices -

1910.1018(m)(1)

Change rooms. The employer shall provide for employees working in regulated areas or subject to the possibility of skin or eye irritation from inorganic arsenic, clean change rooms equipped with storage facilities for street clothes and separate storage facilities for protective clothing and equipment in accordance with 29 CFR 1910.141(e).

1910.1018(m)(2)

Showers.

1910.1018(m)(2)(i)

The employer shall assure that employees working in regulated areas or subject to the possibility of skin or eye irritation from inorganic arsenic shower at the end of the work shift.

1910.1018(m)(2)(ii)

The employer shall provide shower facilities in accordance with 1910.141(d)(3).

1910.1018(m)(3)

Lunchrooms.

1910.1018(m)(3)(i)

The employer shall provide for employees working in regulated areas, lunchroom facilities which have a temperature controlled, positive pressure, filtered air supply, and which are readily accessible to employees working in regulated areas.

1910.1018(m)(3)(ii)

The employer shall assure that employees working in the regulated area or subject to the possibility of skin or eye irritation from exposure to inorganic arsenic wash their hands and face prior to eating.

1910.1018(m)(4)

Lavatories. The employer shall provide lavatory facilities which comply with 1910.141(d)(1) and (2).

1910.1018(m)(5)

Vacuuming clothes. The employer shall provide facilities for employees working in areas where exposure, without regard to the use of respirators, exceeds 100 ug/m(3) to vacuum their protective clothing and clean or change shoes worn in such areas before entering change rooms, lunchrooms or shower rooms required by paragraph (j) of this section and shall assure that such employees use such facilities.

1910.1018(m)(6)

Avoidance of skin irritation. The employer shall assure that no employee is exposed to skin or eye contact with arsenic trichloride, or to skin or eye contact with liquid or particulate inorganic arsenic which is likely to cause skin or eye irritation.

1910.1018(n)

Medical surveillance -

1910.1018(n)(1)

General -

1910.1018(n)(1)(i)

Employees covered. The employer shall institute a medical surveillance program for the following employees:

1910.1018(n)(1)(i)(A)

All employees who are or will be exposed above the action level, without regard to the use of respirators, at least 30 days per year; and

1910.1018(n)(1)(i)(B)

All employees who have been exposed above the action level, without regard to respirator use, for 30 days or more per year for a total of 10 years or more of combined employment with the employer or predecessor employers prior to or after the effective date of this standard. The determination of exposures prior to the effective date of this standard shall be based upon prior exposure records, comparison with the first measurements taken after the effective date of this standard, or comparison with records of exposures in areas with similar processes, extent of engineering controls utilized and materials used by that employer.

1910.1018(n)(1)(ii)

Examination by physician. The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician, and shall be provided without cost to the employee, without loss of pay and at a reasonable time and place.

1910.1018(n)(2)

Initial examinations. By December 1, 1978, for employees initially covered by the medical provisions of this section, or thereafter at the time of initial assignment to an area where the employee is likely to be exposed over the action level at least 30 days per year, the employer shall provide each affected employee an opportunity for a medical examination, including at least the following elements:

1910.1018(n)(2)(i)

A work history and a medical history which shall include a smoking history and the presence and degree of respiratory symptoms such as breathlessness, cough, sputum production and wheezing.

1910.1018(n)(2)(ii)

A medical examination which shall include at least the following:

1910.1018(n)(2)(ii)(A)

A standard posterior-anterior chest x-ray;

1910.1018(n)(2)(ii)(B)

A nasal and skin examination; and

1910.1018(n)(2)(ii)(C)

Other examinations which the physician believes appropriate because of the employees exposure to inorganic arsenic or because of required respirator use.

1910.1018(n)(2)(ii)(D)

[Redesignated as (n)(2)(ii)(C)]

1910.1018(n)(3)

Periodic examinations.

1910.1018(n)(3)(i)

Examinations must be provided in accordance with this paragraph at least annually.

1910.1018(n)(3)(ii)

Whenever a covered employee has not taken the examinations specified in paragraphs (n)(2)(i) and (n)(2)(ii) of this section within six (6) months preceding the termination of employment, the employer shall provide such examinations to the employee upon termination of employment.

1910.1018(n)(4)

Additional examinations. If the employee for any reason develops signs or symptoms commonly associated with exposure to inorganic arsenic the employer shall provide an appropriate examination and emergency medical treatment.

1910.1018(n)(5)

Information provided to the physician. The employer shall provide the following information to the examining physician:

1910.1018(n)(5)(i)

A copy of this standard and its appendices;

1910.1018(n)(5)(ii)

A description of the affected employee's duties as they relate to the employee's exposure;

1910.1018(n)(5)(iii)

The employee's representative exposure level or anticipated exposure level;

1910.1018(n)(5)(iv)

A description of any personal protective equipment used or to be used; and

1910.1018(n)(5)(v)

Information from previous medical examinations of the affected employee which is not readily available to the examining physician.

1910.1018(n)(6)

Physician's written opinion.

1910.1018(n)(6)(i)

The employer shall obtain a written opinion from the examining physician which shall include:

1910.1018(n)(6)(i)(A)

The results of the medical examination and tests performed;

1910.1018(n)(6)(i)(B)

The physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health from exposure to inorganic arsenic;

1910.1018(n)(6)(i)(C)

Any recommended limitations upon the employee's exposure to inorganic arsenic or upon the use of protective clothing or equipment such as respirators; and

1910.1018(n)(6)(i)(D)

A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further explanation or treatment.

1910.1018(n)(6)(ii)

The employer shall instruct the physician not to reveal in the written opinion specific findings or diagnoses unrelated to occupational exposure.

1910.1018(n)(6)(iii)

The employer shall provide a copy of the written opinion to the affected employee.

1910.1018(o)

Employee information and training -

1910.1018(o)(1)

Training program.

1910.1018(o)(1)(i)

The employer shall train each employee who is subject to exposure to inorganic arsenic above the action level without regard to respirator use, or for whom there is the possibility of skin or eye irritation from inorganic arsenic, in accordance with the requirements of this section. The employer shall institute a training program and ensure employee participation in the program.

1910.1018(o)(1)(ii)

The training program shall be provided by October 1, 1978, for employees covered by this provision, at the time of initial assignment for those subsequently covered by this provision, and at least annually for other covered employees thereafter; and the employer shall assure that each employee is informed of the following:

1910.1018(o)(1)(ii)(A)

The information contained in Appendix A;

1910.1018(o)(1)(ii)(B)

The quantity, location, manner of use, storage, sources of exposure, and the specific nature of operations which could result in exposure to inorganic arsenic as well as any necessary protective steps;

1910.1018(o)(1)(ii)(C)

The purpose, proper use, and limitation of respirators;

1910.1018(o)(1)(ii)(D)

The purpose and a description of the medical surveillance program as required by paragraph (n) of this section;

1910.1018(o)(1)(ii)(E)

The engineering controls and work practices associated with the employee's job assignment; and

1910.1018(o)(1)(ii)(F)

A review of this standard.

1910.1018(o)(2)

Access to training materials.

1910.1018(o)(2)(i)

The employer shall make readily available to all affected employees a copy of this standard and its appendices.

1910.1018(o)(2)(ii)

The employer shall provide; upon request, all materials relating to the employee information and training program to the Assistant Secretary and the Director.

1910.1018(p)

Communication of hazards—

1910.1018(p)(1)

Hazard communication—General.

1910.1018(p)(1)(i)

Chemical manufacturers, importers, distributors and employers shall comply with all requirements of the Hazard Communication Standard (HCS) (§ 1910.1200) for inorganic arsenic.

1910.1018(p)(1)(ii)

In classifying the hazards of inorganic arsenic at least the following hazards are to be addressed: Cancer; liver effects; skin effects; respiratory irritation; nervous system effects; and acute toxicity effects.

1910.1018(p)(1)(iii)

Employers shall include inorganic arsenic in the hazard communication program established to comply with the HCS (§ 1910.1200). Employers shall ensure that each employee has access to labels on containers of inorganic arsenic and to safety data sheets, and is trained in accordance with the requirements of HCS and paragraph (o) of this section.

1910.1018(p)(1)(iv)

The employer shall ensure that no statement appears on or near any sign or label required by this paragraph (p) which contradicts or detracts from the meaning of the required sign or label.

1910.1018(p)(2)

Signs.

1910.1018(p)(2)(i)

The employer shall post signs demarcating regulated areas bearing the legend:

DANGER
INORGANIC ARSENIC
MAY CAUSE CANCER
DO NOT EAT, DRINK OR SMOKE
WEAR RESPIRATORY PROTECTION IN THIS AREA
AUTHORIZED PERSONNEL ONLY

1910.1018(p)(2)(ii)

Prior to June 1, 2016, employers may use the following legend in lieu of that specified in paragraph (p)(2)(i) of this section:

DANGER
INORGANIC ARSENIC
CANCER HAZARD
AUTHORIZED PERSONNEL ONLY
NO SMOKING OR EATING
RESPIRATOR REQUIRED

1910.1018(p)(2)(iii)

The employer shall ensure that signs required by this paragraph (p) are illuminated and cleaned as necessary so that the legend is readily visible.

1910.1018(p)(3)(i)

Prior to June 1, 2015, in lieu of the labeling requirements in paragraphs (p)(1)(i) of this section, employers may apply precautionary labels to all shipping and storage containers of inorganic arsenic, and to all products containing inorganic arsenic, bearing the following legend:

DANGER
CONTAINS INORGANIC ARSENIC
CANCER HAZARD
HARMFUL IF INHALED OR SWALLOWED
USE ONLY WITH ADEQUATE VENTILATION OR RESPIRATORY PROTECTION

1910.1018(p)(3)(ii)

Labels are not required when the inorganic arsenic in the product is bound in such a manner so as to make unlikely the possibility of airborne exposure to inorganic arsenic. (Possible examples of products not requiring labels are semiconductors, light emitting diodes and glass.)

1910.1018(q)

Recordkeeping -

1910.1018(q)(1)

Exposure monitoring.

1910.1018(q)(1)(i)

The employer shall establish and maintain an accurate record of all monitoring required by paragraph (e) of this section.

1910.1018(q)(1)(ii)

This record shall include:

1910.1018(q)(1)(ii)(A)

The date(s), number, duration location, and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure where applicable;

1910.1018(q)(1)(ii)(B)

A description of the sampling and analytical methods used and evidence of their accuracy;

1910.1018(q)(1)(ii)(C)

The type of respiratory protective devices worn, if any;

1910.1018(q)(1)(ii)(D)

Name, social security number, and job classification of the employees monitored and of all other employees whose exposure the measurement is intended to represent; and

1910.1018(q)(1)(ii)(E)

The environmental variables that could affect the measurement of the employee's exposure.

1910.1018(q)(1)(iii)

The employer shall maintain these monitoring records for at least 40 years or for the duration of employment plus 20 years, whichever, is longer.

1910.1018(q)(2)

Medical surveillance.

1910.1018(q)(2)(i)

The employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by paragraph (n) of this section.

1910.1018(q)(2)(ii)

This record shall include:

1910.1018(q)(2)(ii)(A)

The name, social security number, and description of duties of the employee;

1910.1018(q)(2)(ii)(B)

A copy of the physician's written opinions;

1910.1018(q)(2)(ii)(C)

Results of any exposure monitoring done for that employee and the representative exposure levels supplied to the physician; and

1910.1018(q)(2)(ii)(D)

Any employee medical complaints related to exposure to inorganic arsenic.

1910.1018(q)(2)(iii)

The employer shall in addition keep, or assure that the examining physician keeps, the following medical records;

1910.1018(q)(2)(iii)(A)

A copy of the medical examination results including medical and work history required under paragraph (n) of this section;

1910.1018(q)(2)(iii)(B)

A description of the laboratory procedures and a copy of any standards or guidelines used to interpret the test results or references to that information;

1910.1018(q)(2)(iii)(C)

The initial X-ray;

1910.1018(q)(2)(iii)(D)

The X-rays for the most recent 5 years; and

1910.1018(q)(2)(iii)(E)

Any X-rays with a demonstrated abnormality and all subsequent X-rays;

1910.1018(q)(2)(iii)(F)

[Removed]

1910.1018(q)(2)(iii)(G)

[Removed]

1910.1018(q)(2)(iii)(H)

[Removed]

1910.1018(q)(2)(iv)

The employer shall maintain or assure that the physician maintains those medical records for at least 40 years, or for the duration of employment plus 20 years whichever is longer.

1910.1018(q)(3)

Availability.

1910.1018(q)(3)(i)

The employer shall make available upon request all records required to be maintained by paragraph (q) of this section to the Assistant Secretary and the Director for examination and copying.

1910.1018(q)(3)(ii)

Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.1020(a)-(e) and (g)-(i).

1910.1018(q)(4)

Transfer of records.

1910.1018(q)(4)(i)

Whenever the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by this section.

1910.1018(q)(4)(ii)

The employer shall also comply with any additional requirements involving the transfer of records set in 29 CFR 1910.1020(h).

1910.1018(r)

Observation of monitoring -

1910.1018(r)(1)

Employee observation. The employer shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to inorganic arsenic conducted pursuant to paragraph (e) of this section.

1910.1018(r)(2)

Observation procedures.

1910.1018(r)(2)(i)

Whenever observation of the monitoring of employee exposure to inorganic arsenic requires entry into an area where the use of respirators, protective clothing, or equipment is required, the employer shall provide the observer with and assure the use of such respirators, clothing, and such equipment, and shall require the observer to comply with all other applicable safety and health procedures.

1910.1018(r)(2)(ii)

Without interfering with the monitoring, observers shall be entitled to;

1910.1018(r)(2)(ii)(A)

Receive an explanation of the measurement procedures;

1910.1018(r)(2)(ii)(B)

Observe all steps related to the monitoring of inorganic arsenic performed at the place of exposure; and

1910.1018(r)(2)(ii)(C)

Record the results obtained or receive copies of the results when returned by the laboratory.

1910.1018(s)

Appendices. The information contained in the appendices to this section is not intended by itself, to create any additional obligations not otherwise imposed by this standard nor detract from any existing obligation.

[58 FR 35310, June 30, 1993; 61 FR 5507, Feb. 13, 1996; 61 FR 9227, March 7, 1996; 63 FR 1152, Jan. 8, 1998; 63 FR 33450, June 18, 1998; 70 FR 1141, Jan. 5, 2005; 71 FR 16672 and 16673, April 3, 2006; 71 FR 50189, August 24, 2006; 73 FR 75585, Dec. 12, 2008; 76 FR 33608, June 8, 2011; 77 FR 17780, March 26, 2012]

➡ [Next Standard \(1910.1018 App A\)](#)

➡ [Regulations \(Standards - 29 CFR\) - Table of Contents](#)