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# **Medical Screening and Surveillance Requirements in OSHA Standards: A Guide**



### **Occupational Safety and Health Act of 1970**

**“To assure safe and healthful working conditions for working men and women; by authorizing enforcement of the standards developed under the Act; by assisting and encouraging the States in their efforts to assure safe and healthful working conditions; by providing for research, information, education, and training in the field of occupational safety and health.”**

This publication provides a general overview of a particular standards-related topic. This publication does not alter or determine compliance responsibilities which are set forth in OSHA standards and the *Occupational Safety and Health Act*. Moreover, because interpretations and enforcement policy may change over time, for additional guidance on OSHA compliance requirements the reader should consult current administrative interpretations and decisions by the Occupational Safety and Health Review Commission and the courts.

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# **Medical Screening and Surveillance Requirements in OSHA Standards: A Guide**

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U.S. Department of Labor

Occupational Safety and Health Administration

OSHA 3162-01R  
2014

*The Occupational Safety and Health Act* requires that employers comply with safety and health standards promulgated by OSHA or by a state with an OSHA-approved state plan. This guide is a quick reference to help you locate and implement the screening and surveillance requirements of the Federal OSHA standards published in *Title 29 of the Code of Federal Regulations (29 CFR)*. This guide provides a general overview of OSHA requirements. It is not a standard or regulation, and it creates no new legal obligations. For full details of specific compliance requirements, please consult the appropriate OSHA standard in the *CFR*. You can access the medical surveillance provisions of the OSHA standards on the Internet at [www.osha.gov](http://www.osha.gov). Additional assistance is available by telephone at 1-800-321-OSHA (6742).

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## Glossary

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<b>BP</b>	blood pressure
<b>BUN</b>	blood urea nitrogen
<b>CBC</b>	complete blood count
<b>FEF</b>	forced expiratory flow
<b>FEV<sub>1</sub></b>	forced expiratory volume one second
<b>FSH</b>	follicle stimulating hormone
<b>FVC</b>	forced vital capacity
<b>HAZWOPER</b>	Hazardous Waste Operations and Emergency Response
<b>HBV</b>	hepatitis B virus
<b>LH</b>	luteinizing hormone
<b>MDA</b>	methylenedianiline
<b>PFT</b>	pulmonary function test
<b>PHS or USPHS</b>	United States Public Health Service
<b>PLHCP</b>	physician or other licensed healthcare professional
<b>PPE</b>	personal protective equipment
<b>SGOT</b>	serum glutamic oxalacetic transaminase
<b>SGPT</b>	serum glutamic pyruvic transaminase
<b>ZPP</b>	zinc protoporphyrin

## **Acrylonitrile 1910.1045(n); 1926.1145; 1915.1045\***

### ***Standard Requirements***

<b>Pre-placement exam</b>	Yes <sup>1</sup>
<b>Periodic exam</b>	Yes – annual <sup>1</sup>
<b>Emergency/exposure examination and tests</b>	Yes
<b>Termination exam</b>	Yes – if no exam within 6 months of termination
<b>Examination includes special emphasis on these body systems</b>	Respiratory, gastrointestinal <sup>1</sup> , thyroid, skin, neurological (peripheral and central)
<b>Work and medical history</b>	Required for all exams <sup>2</sup>
<b>Chest x-ray</b>	Yes
<b>Pulmonary function test (PFT)</b>	No
<b>Other required tests</b>	Fecal occult blood <sup>1</sup>
<b>Evaluation of ability to wear a respirator</b>	Yes
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	Yes – physician to employer; employer to employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by physician
<b>Medical removal plan</b>	No

## **Arsenic (Inorganic) 1910.1018(n); 1926.1118; 1915.1018\***

### ***Standard Requirements***

<b>Pre-placement exam</b>	Yes <sup>1</sup>
<b>Periodic exam</b>	Yes – annual <sup>1</sup>
<b>Emergency/exposure examination and tests</b>	Yes
<b>Termination exam</b>	Yes – if no exam within 6 months of termination
<b>Examination includes special emphasis on these body systems</b>	Skin, nasal
<b>Work and medical history</b>	Required for all exams <sup>2</sup> with focus on respiratory symptoms; includes smoking history
<b>Chest x-ray</b>	Yes
<b>Pulmonary function test (PFT)</b>	No
<b>Other required tests</b>	No
<b>Evaluation of ability to wear a respirator</b>	Yes
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	Yes – physician to employer; employer to employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by physician
<b>Medical removal plan</b>	No

## Asbestos (General Industry)

### 1910.1001(l)

#### ***Standard Requirements***

<b>Pre-placement exam</b>	Yes <sup>1, 3</sup>
<b>Periodic exam</b>	Yes – annual <sup>1</sup>
<b>Emergency/exposure examination and tests</b>	No
<b>Termination exam</b>	Yes – within ± 30 days of termination
<b>Examination includes special emphasis on these body systems</b>	Respiratory, cardiovascular, gastrointestinal
<b>Work and medical history</b>	Required for all exams <sup>2</sup> standardized form required; see standard, Appendix D parts 1 and 2
<b>Chest x-ray</b>	Yes <sup>1</sup> – see standard Table 1 for frequency; B reader, board eligible/certified radiologist or physician with expertise in pneumoconioses required; see standard, Appendix E for x-ray interpretation and classification requirements
<b>Pulmonary function test (PFT)</b>	FVC, FEV <sub>1</sub>
<b>Other required tests</b>	No
<b>Evaluation of ability to wear a respirator</b>	Yes
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	Yes – physician to employer; employer to employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by physician; includes informing employee of increased risk of lung cancer from combined effects of smoking and asbestos exposure
<b>Medical removal plan</b>	No

## Asbestos (Construction and Shipyards)

**1926.1101(m); 1915.1001**

### **Standard Requirements**

<b>Pre-placement exam</b>	Yes <sup>1, 3</sup>
<b>Periodic exam</b>	Yes – annual <sup>1</sup> or more frequently if determined by physician
<b>Emergency/exposure examination and tests</b>	No
<b>Termination exam</b>	No
<b>Examination includes special emphasis on these body systems</b>	Pulmonary and gastrointestinal
<b>Work and medical history</b>	Required for all exams <sup>2</sup> ; special emphasis on pulmonary, cardiovascular, gastrointestinal; standardized form required; see standard, Appendix D parts 1 and 2
<b>Chest x-ray</b>	Yes <sup>1</sup> – B reader, board eligible/certified radiologist or physician with expertise in pneumoconioses required; see standard, Appendix E for x-ray interpretation and classification requirements
<b>Pulmonary function test (PFT)</b>	FVC, FEV <sub>1</sub>
<b>Other required tests</b>	No
<b>Evaluation of ability to wear a respirator</b>	Yes
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	Yes – physician to employer; employer to employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by physician; includes informing employee of increased risk of lung cancer from combined effects of smoking and asbestos exposure
<b>Medical removal plan</b>	No

## Benzene

1910.1028(i); 1926.1128; 1915.1028\*

### *Standard Requirements*

<b>Pre-placement exam</b>	Yes <sup>1, 3, 4</sup>
<b>Periodic exam</b>	Yes – annual <sup>1, 4</sup>
<b>Emergency/exposure examination and tests</b>	Yes <sup>1, 4</sup> – includes urinary phenol test
<b>Termination exam</b>	No
<b>Examination includes special emphasis on these body systems</b>	Hemopoietic; add cardiopulmonary if respiratory protection used at least 30 days/year, (initially, then every 3 years)
<b>Work and medical history</b>	Required for initial and periodic exams (pre-placement exam requires special history) <sup>2</sup>
<b>Chest x-ray</b>	No
<b>Pulmonary function test (PFT)</b>	Initially and every 3 years if respiratory protection used 30 days/year; specific tester requirements
<b>Other required tests</b>	CBC, differential, other specific blood tests; repeated as required; see standard
<b>Evaluation of ability to wear a respirator</b>	Yes – if respirators are used
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	Yes – physician to employer; employer to employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by physician
<b>Medical removal plan</b>	Yes <sup>5</sup>

# Bloodborne Pathogens

## 1910.1030(f)

### ***Standard Requirements***

<b>Pre-placement exam</b>	No – must offer Hepatitis B (HBV) vaccine unless already immune or vaccine contraindicated
<b>Periodic exam</b>	No
<b>Emergency/exposure examination and tests</b>	Specific post-exposure monitoring for employee and source; HBV vaccine; see standard
<b>Termination exam</b>	No
<b>Examination includes special emphasis on these body systems</b>	No
<b>Work and medical history</b>	No
<b>Chest x-ray</b>	No
<b>Pulmonary function test (PFT)</b>	No
<b>Other required tests</b>	Yes – post-exposure incident; follow U.S. Public Health Service (USPHS) post-exposure protocols
<b>Evaluation of ability to wear a respirator</b>	No
<b>Additional tests if deemed necessary</b>	Yes – for post-exposure incident; follow USPHS post-exposure protocols
<b>Written medical opinion</b>	Yes – licensed healthcare professional to employer; employer to employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by licensed healthcare professional; counseling re: HBV vaccine and post-exposure follow-up; see standard
<b>Medical removal plan</b>	No

## 1,3-Butadiene

1910.1051(k); 1926.1151\*

### ***Standard Requirements***

<b>Pre-placement exam</b>	Yes <sup>1, 3, 4</sup>
<b>Periodic exam</b>	Yes <sup>1, 4</sup>
<b>Emergency/exposure examination and tests</b>	Yes <sup>1, 4</sup> – within 48 hours of exposure
<b>Termination exam</b>	Yes <sup>4</sup> – if 12 months have elapsed since last exam
<b>Examination includes special emphasis on these body systems</b>	Liver, spleen, lymph nodes, and skin
<b>Work and medical history</b>	Required annually and for all examinations <sup>2</sup> ; standardized form or equivalent; includes comprehensive occupational and health history; see standard, Appendices F and C
<b>Chest x-ray</b>	No
<b>Pulmonary function test (PFT)</b>	No
<b>Other required tests</b>	Annually, CBC with differential and platelet count; also within 48 hrs. after exposure in an emergency situation and repeated monthly for 3 more months
<b>Evaluation of ability to wear a respirator</b>	Yes – if respirators are used
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	Yes – physician or other licensed healthcare professional to employer and employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by physician or other licensed healthcare professional
<b>Medical removal plan</b>	No

# Cadmium

**1910.1027(l); 1926.1127; 1915.1027; 1928.1027\***

## *Standard Requirements*

<b>Pre-placement exam</b>	Yes <sup>1, 3, 4</sup>
<b>Periodic exam</b>	Yes <sup>1, 4</sup>
<b>Emergency/exposure examination and tests</b>	Yes <sup>1, 4</sup>
<b>Termination exam</b>	Yes <sup>3</sup> – see standard for time frame and other specifics
<b>Examination includes special emphasis on these body systems</b>	Respiratory, cardiovascular (BP), urinary, and for males over 40 – prostate palpation <sup>1</sup>
<b>Work and medical history</b>	Required for preplacement and periodic exams <sup>2</sup> ; standardized form required; see Appendix D
<b>Chest x-ray</b>	Yes
<b>Pulmonary function test (PFT)</b>	FVC, FEV <sub>1</sub>
<b>Other required tests</b>	Cadmium in urine, beta-2 microglobulin in urine, cadmium in blood, CBC, BUN, serum creatinine, urinalysis; see standard
<b>Evaluation of ability to wear a respirator</b>	Yes
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	Yes – physician to employer; employer to employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by physician; includes explanation of results, treatment, and diet, and discussion of decisions re: medical removal; see standard for details
<b>Medical removal plan</b>	Yes <sup>5</sup>

## Carcinogens (Suspect)

1910.1003-1016(g); 1926.1103; 1915.1003-1016\*

### *Standard Requirements*

<b>Pre-placement exam</b>	Yes
<b>Periodic exam</b>	Yes – annual
<b>Emergency/exposure examination and tests</b>	Yes <sup>1</sup> – special medical surveillance begins within 24 hours
<b>Termination exam</b>	No
<b>Examination includes special emphasis on these body systems</b>	Exam includes determination for increased risk (e.g., treatment with steroids or cytotoxic agents, reduced immunological competence, pregnancy or cigarette smoking)
<b>Work and medical history</b>	Required for all examinations; includes family and occupational history, genetic and environmental factors
<b>Chest x-ray</b>	No
<b>Pulmonary function test (PFT)</b>	No
<b>Other required tests</b>	No
<b>Evaluation of ability to wear a respirator</b>	Yes – as specified in the Respiratory Protection standard, 1910.134(e), if respirators are used
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	Yes – physician to employer
<b>Employee counseling re: exam results, conditions of increased risk</b>	No
<b>Medical removal plan</b>	No

## Chromium(VI), Hexavalent

1910.1026(k); 1926.1126(i); 1915.1026(i)

### *Standard Requirements*

<b>Pre-placement exam</b>	Yes <sup>1</sup>
<b>Periodic exam</b>	Yes <sup>1</sup>
<b>Emergency/exposure examination and tests</b>	Yes <sup>1</sup>
<b>Termination exam</b>	Yes <sup>3</sup> – unless last exam was less than 6 months prior to date of termination
<b>Examination includes special emphasis on these body systems</b>	Skin and respiratory tract
<b>Work and medical history</b>	Required for all exams <sup>2</sup> ; includes past, present and anticipated future exposure; any history of respiratory system dysfunction, asthma, dermatitis, skin ulceration or nasal septum perforation; smoking status and history
<b>Chest x-ray</b>	No
<b>Pulmonary function test (PFT)</b>	No
<b>Other required tests</b>	No
<b>Evaluation of ability to wear a respirator</b>	Yes
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	Yes – physician or other licensed healthcare professional (PLHCP) to employer; employer to employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by PLHCP
<b>Medical removal plan</b>	No

## Coke Oven Emissions

### 1910.1029(j)

#### *Standard Requirements*

<b>Pre-placement exam</b>	Yes <sup>1</sup>
<b>Periodic exam</b>	Yes <sup>1</sup>
<b>Emergency/exposure examination and tests</b>	No
<b>Termination exam</b>	Yes – if no exam within 6 months of termination
<b>Examination includes special emphasis on these body systems</b>	Skin
<b>Work and medical history</b>	Required for all exams <sup>2</sup> ; includes smoking history and presence and degree of respiratory symptoms
<b>Chest x-ray</b>	Yes
<b>Pulmonary function test (PFT)</b>	FVC, FEV <sub>1</sub>
<b>Other required tests</b>	Weight, urine cytology, urinalysis for sugar, albumin, hematuria
<b>Evaluation of ability to wear a respirator</b>	Yes
<b>Additional tests if deemed necessary</b>	Yes – see standard, Appendix B
<b>Written medical opinion</b>	Yes – physician to employer; employer to employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by physician; also, employer must inform employee of possible health consequences if employee refuses any required medical exam
<b>Medical removal plan</b>	No

## Compressed Air Environments

### 1926.803(b)

#### *Standard Requirements*

<b>Pre-placement exam</b>	Yes
<b>Periodic exam</b>	Yes <sup>1</sup>
<b>Emergency/exposure examination and tests</b>	No
<b>Termination exam</b>	No
<b>Examination includes special emphasis on these body systems</b>	Not specified
<b>Work and medical history</b>	No
<b>Chest x-ray</b>	No
<b>Pulmonary function test (PFT)</b>	No
<b>Other required tests</b>	No
<b>Evaluation of ability to wear a respirator</b>	No
<b>Additional tests if deemed necessary</b>	No
<b>Written medical opinion</b>	No
<b>Employee counseling re: exam results, conditions of increased risk</b>	No
<b>Medical removal plan</b>	No

## Cotton Dust

### 1910.1043(h)

#### ***Standard Requirements***

<b>Pre-placement exam</b>	Physical exam not specified; other tests required
<b>Periodic exam</b>	Physical exam not specified; other tests required <sup>1, 4</sup>
<b>Emergency/exposure examination and tests</b>	No
<b>Termination exam</b>	No
<b>Examination includes special emphasis on these body systems</b>	Not specified
<b>Work and medical history</b>	Medical history; standardized questionnaire required; see standard, Appendix B-1 <sup>1, 2, 4</sup>
<b>Chest x-ray</b>	No
<b>Pulmonary function test (PFT)</b>	FVC, FEV <sub>1</sub> , FEV <sub>1</sub> /FVC Employees with specific abnormalities are referred to specialists <sup>1, 4, 5</sup>
<b>Other required tests</b>	No
<b>Evaluation of ability to wear a respirator</b>	Yes
<b>Additional tests if deemed necessary</b>	No
<b>Written medical opinion</b>	Yes – physician to employer; employer to employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by physician re: results of exam and any medical conditions requiring further examination or treatment
<b>Medical removal plan</b>	Yes – for inability to wear a respirator

## 1,2-dibromo-3-chloropropane

1910.1044(m); 1926.1144; 1915.1044\*

### *Standard Requirements*

<b>Pre-placement exam</b>	Yes
<b>Periodic exam</b>	Yes <sup>1</sup>
<b>Emergency/exposure examination and tests</b>	Yes – male reproductive; repeat in 3 months
<b>Termination exam</b>	No
<b>Examination includes special emphasis on these body systems</b>	Reproductive, genitourinary; see standard for details
<b>Work and medical history</b>	Required for all exams <sup>2</sup> ; includes reproductive history; see standard, Appendix C
<b>Chest x-ray</b>	No
<b>Pulmonary function test (PFT)</b>	No
<b>Other required tests</b>	Sperm count, FSH, LH, Total estrogen (females); see standard, Appendix C for guidelines
<b>Evaluation of ability to wear a respirator</b>	Yes
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	Yes – physician to employer; employer to employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by physician
<b>Medical removal plan</b>	No

## Ethylene Oxide

1910.1047(i); 1926.1147\*

### ***Standard Requirements***

<b>Pre-placement exam</b>	Yes <sup>1</sup>
<b>Periodic exam</b>	Yes – annual <sup>1</sup>
<b>Emergency/exposure examination and tests</b>	Yes <sup>1</sup>
<b>Termination exam</b>	Yes <sup>1</sup>
<b>Examination includes special emphasis on these body systems</b>	Pulmonary, skin, neurologic, hematologic, reproductive, eyes
<b>Work and medical history</b>	Required for all exams; includes reproductive history and special emphasis on some body systems; see standard
<b>Chest x-ray</b>	No
<b>Pulmonary function test (PFT)</b>	No
<b>Other required tests</b>	CBC, white cell count with differential, hematocrit, hemoglobin, red cell count; if requested by employee, pregnancy testing and fertility testing (female/male) will be added to the exam as deemed appropriate by physician
<b>Evaluation of ability to wear a respirator</b>	Yes
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	Yes – physician to employer; employer to employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by physician
<b>Medical removal plan</b>	No

## Formaldehyde

1910.1048(l); 1926.1148; 1915.1048\*

### *Standard Requirements*

<b>Pre-placement exam</b>	Yes <sup>1, 4</sup>
<b>Periodic exam</b>	Yes <sup>1, 4</sup>
<b>Emergency/exposure examination and tests</b>	Yes <sup>4</sup>
<b>Termination exam</b>	No
<b>Examination includes special emphasis on these body systems</b>	Evidence of irritation or sensitization of skin, respiratory system, eyes; shortness of breath
<b>Work and medical history</b>	Required for all exams <sup>2</sup> ; questionnaire required; see standard, Appendix D
<b>Chest x-ray</b>	No
<b>Pulmonary function test (PFT)</b>	FVC, FEV <sub>1</sub> , FEF should be evaluated if respiratory protection is used
<b>Other required tests</b>	No
<b>Evaluation of ability to wear a respirator</b>	Yes
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	Yes – physician to employer; employer to employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by physician; includes information on whether medical conditions were caused by past exposures or emergency exposures
<b>Medical removal plan</b>	Yes <sup>5</sup>

# HAZWOPER

## 1910.120(f); 1926.65\*

### ***Standard Requirements***

<b>Pre-placement exam</b>	Yes <sup>1</sup>
<b>Periodic exam</b>	Yes – annually or at physician's discretion <sup>1</sup>
<b>Emergency/exposure examination and tests</b>	Yes <sup>1</sup>
<b>Termination exam</b>	Yes – if no exam within 6 months of termination/reassignment
<b>Examination includes special emphasis on these body systems</b>	Determined by physician; see standard, Appendix D, reference 10 for guidelines
<b>Work and medical history</b>	Yes – with emphasis on symptoms related to handling hazardous substances and health hazards, fitness for duty and ability to wear PPE <sup>2</sup>
<b>Chest x-ray</b>	No – unless determined by physician
<b>Pulmonary function test (PFT)</b>	No – unless determined by physician
<b>Other required tests</b>	No – unless determined by physician
<b>Evaluation of ability to wear a respirator</b>	Yes
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	Yes – physician to employer; employer to employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by physician
<b>Medical removal plan</b>	No

## Hazardous Chemicals in Laboratories

1910.1450(g)

### ***Standard Requirements***

<b>Pre-placement exam</b>	When required by other standards
<b>Periodic exam</b>	When required by other standards
<b>Emergency/exposure examination and tests</b>	Yes <sup>1</sup>
<b>Termination exam</b>	No
<b>Examination includes special emphasis on these body systems</b>	Not specified
<b>Work and medical history</b>	When required by other standards
<b>Chest x-ray</b>	When required by other standards
<b>Pulmonary function test (PFT)</b>	When required by other standards
<b>Other required tests</b>	When required by other standards
<b>Evaluation of ability to wear a respirator</b>	Yes – when required by other standards
<b>Additional tests if deemed necessary</b>	When required by other standards
<b>Written medical opinion</b>	Yes – physician to employer
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by physician
<b>Medical removal plan</b>	No

# Lead

1910.1025(j); 1926.62\*

## ***Standard Requirements***

<b>Pre-placement exam</b>	Yes <sup>1, 4</sup> except in construction industries; construction requires initial blood tests only
<b>Periodic exam</b>	Yes <sup>1, 4</sup>
<b>Emergency/exposure examination and tests</b>	Yes <sup>1, 4</sup>
<b>Termination exam</b>	No
<b>Examination includes special emphasis on these body systems</b>	Teeth, gums, hematologic, gastrointestinal, renal, cardiovascular (BP), neurological; pulmonary status if respiratory protection used
<b>Work and medical history</b>	Required for all exams <sup>2</sup> ; includes reproductive history, past lead exposure, both work/non-work, and history of specific body systems; see standard
<b>Chest x-ray</b>	No
<b>Pulmonary function test (PFT)</b>	No – unless deemed necessary by physician
<b>Other required tests</b>	Hemoglobin, hematocrit, ZPP, BUN, serum creatinine, urinalysis with micro, blood-lead levels, peripheral smear morphology, red cell indices <sup>1, 5</sup> ; if requested by employee, pregnancy testing and fertility testing (female/male)
<b>Evaluation of ability to wear a respirator</b>	Yes
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	Yes – physician to employer; employer to employee

*Continued on page 24*

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<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by physician; includes advising the employee of any medical condition, occupational or non-occupational, requiring further medical examination or treatment
<b>Medical removal plan</b>	Yes <sup>5</sup>

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## Methylene Chloride

### 1910.1052(j); 1926.1152\*

#### ***Standard Requirements***

<b>Pre-placement exam</b>	Yes <sup>1, 4</sup>
<b>Periodic exam</b>	Yes <sup>1, 4</sup>
<b>Emergency/exposure examination and tests</b>	Yes <sup>4</sup> – see standard for specifics
<b>Termination exam</b>	Yes – if no exam within 6 months of termination
<b>Examination includes special emphasis on these body systems</b>	Lungs, cardiovascular (including BP and pulse), liver, nervous, skin; extent of exam determined by examiner based on employee's health status, work, and medical history
<b>Work and medical history</b>	Required for all exams; example of work and medical history form provided in standard, Appendix B
<b>Chest x-ray</b>	No
<b>Pulmonary function test (PFT)</b>	No – unless deemed necessary by physician or other licensed healthcare professional
<b>Other required tests</b>	Laboratory surveillance may include tests as determined by examiner including "before and after shift tests"; see standard, Appendix B
<b>Evaluation of ability to wear a respirator</b>	Yes
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	Yes – by physician or other licensed healthcare professional to employer and employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by physician or other licensed healthcare professional
<b>Medical removal plan</b>	Yes <sup>5</sup>

## Methylenedianiline

### 1910.1050(m)

#### *Standard Requirements*

<b>Pre-placement exam</b>	Yes <sup>1, 3, 4</sup>
<b>Periodic exam</b>	Yes – annual <sup>1, 4</sup>
<b>Emergency/exposure examination and tests</b>	Yes <sup>1, 4</sup>
<b>Termination exam</b>	No
<b>Examination includes special emphasis on these body systems</b>	Skin, hepatic
<b>Work and medical history</b>	Required for all examinations <sup>2</sup> ; includes past work with MDA and other specific items; see standard
<b>Chest x-ray</b>	No
<b>Pulmonary function test (PFT)</b>	No
<b>Other required tests</b>	Liver function tests, urinalysis
<b>Evaluation of ability to wear a respirator</b>	Yes
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	Yes – physician to employer; employer to employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by physician
<b>Medical removal plan</b>	Yes <sup>5</sup>

## Noise

1910.95(g); 1926.52<sup>†</sup>

### ***Standard Requirements***

<b>Pre-placement exam</b>	No, but baseline audiogram required within 6 months of exposure at or above 85dB; Mobile test van exception, within one year of exposure at or above 85dB <sup>1</sup>
<b>Periodic exam</b>	Annual audiogram testing required
<b>Emergency/exposure examination and tests</b>	No
<b>Termination exam</b>	No
<b>Examination includes special emphasis on these body systems</b>	No
<b>Work and medical history</b>	No
<b>Chest x-ray</b>	No
<b>Pulmonary function test (PFT)</b>	No
<b>Other required tests</b>	Initial and annual audiometric testing <sup>1, 4, 5</sup> ; see standard re: specific qualifications for the test administrator
<b>Evaluation of ability to wear a respirator</b>	No
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	No
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – if standard threshold shift or suspected ear pathology
<b>Medical removal plan</b>	No

## Respiratory Protection

1910.134(e); 1926.103\*

### ***Standard Requirements***

<b>Pre-placement exam</b>	Evaluation questionnaire or exam; follow-up exam when required <sup>5</sup>
<b>Periodic exam</b>	Yes – in specific situations <sup>5</sup>
<b>Emergency/exposure examination and tests</b>	No
<b>Termination exam</b>	No
<b>Examination includes special emphasis on these body systems</b>	Yes <sup>5</sup> – see standard, Appendix C
<b>Work and medical history</b>	Yes <sup>2</sup> – see standard, medical questionnaire in Appendix C
<b>Chest x-ray</b>	As determined by physician or other licensed healthcare professional
<b>Pulmonary function test (PFT)</b>	As determined by physician or other licensed healthcare professional
<b>Other required tests</b>	As determined by physician or other licensed healthcare professional
<b>Evaluation of ability to wear a respirator</b>	Yes
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	Yes – physician or other licensed healthcare professional to employer and employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes – by physician or other licensed healthcare professional
<b>Medical removal plan</b>	No

# Vinyl Chloride

1910.1017(k); 1926.1117\*

## *Standard Requirements*

<b>Pre-placement exam</b>	Yes <sup>1</sup>
<b>Periodic exam</b>	Yes <sup>1</sup>
<b>Emergency/exposure examination and tests</b>	Yes
<b>Termination exam</b>	No
<b>Examination includes special emphasis on these body systems</b>	Special attention to detecting enlargement of the liver, spleen or kidneys, or dysfunction of these organs and abnormalities in skin, connective tissue and pulmonary system; see standard, Appendix A
<b>Work and medical history</b>	Required for initial and periodic exams <sup>2</sup> ; includes alcohol intake, history of hepatitis, exposure to hepatotoxic agents, blood transfusions, hospitalizations, and work history
<b>Chest x-ray</b>	No
<b>Pulmonary function test (PFT)</b>	No
<b>Other required tests</b>	Blood test for total bilirubin, alkaline phosphatase, SGOT, SGPT and gamma glutamyl transpeptidase
<b>Evaluation of ability to wear a respirator</b>	Yes
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	Yes – physician to employer; employer to employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	No
<b>Medical removal plan</b>	Yes <sup>5</sup>

## Footnotes

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<sup>1</sup> Pre-placement and periodic examinations are dependent upon specific factors cited in the standard such as airborne concentrations of the substance and/or years of exposure, biological indices, age of employee, amount of time exposed per year. In addition, some standards require periodic exams to be conducted at varying time intervals. Refer to standard for complete details.

<sup>2</sup> Standard requires medical and work history focused on special body systems, symptoms, personal habits, and/or specific family, environmental or occupational history. Refer to standard for complete details.

<sup>3</sup> No examination required if previous examination done within specified time frame (e.g., 6 months or 12 months) and provisions of standard met. Refer to standard for details.

<sup>4</sup> Additional physician review: Some standards have provisions for referring employees with abnormalities to a specialist as deemed necessary by examiner. Other standards have provisions for multiple physician review. See specific standard for details.

<sup>5</sup> Standard requires specific protocol. See standard for details.

\* These Maritime and Construction standards are identical to 29 CFR 1910, General Industry standards.

<sup>†</sup> 1926.52 requires an effective and continued hearing conservation program. OSHA has interpreted this to include baseline and annual audiometry. See Letter of Interpretation dated August 4, 1992.

## Workers' Rights

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Under OSHA law, workers are entitled to working conditions that do not pose a risk of serious harm. To help assure a safe and healthful workplace, the law provides workers with the right to:

- File a confidential complaint with OSHA to have their workplace inspected.
- Receive information and training about hazards, methods to prevent harm, and the OSHA standards that apply to their workplace. The training must be done in a language and vocabulary workers can understand.
- Receive copies of records of work-related injuries and illnesses that occur in their workplace.
- Receive copies of the results from tests and monitoring done to find and measure hazards in their workplace.
- Receive copies of their workplace medical records.
- Participate in an OSHA inspection and speak in private with the inspector.
- File a complaint with OSHA if they have been retaliated against by their employer as the result of requesting an inspection or using any of their other rights under the OSH Act.
- File a complaint if punished or retaliated against for acting as a “whistleblower” under the 21 additional federal laws for which OSHA has jurisdiction.

For more information, visit OSHA's Workers' Rights page at [www.osha.gov/workers.html](http://www.osha.gov/workers.html).

## OSHA Assistance, Services and Programs

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OSHA offers free compliance assistance to employers and workers. Several OSHA programs and services can help employers identify and correct job hazards, as well as improve their injury and illness prevention program.

### Establishing an Injury and Illness Prevention Program

The key to a safe and healthful work environment is a comprehensive injury and illness prevention program. Injury and illness prevention programs are systems that can substantially reduce the number and severity of workplace injuries and illnesses, while reducing costs to employers. Thousands of

employers across the United States already manage safety using illness and injury prevention programs, and OSHA believes that all employers can and should do the same. Thirty-four states have requirements or voluntary guidelines for workplace injury and illness prevention programs. Most successful injury and illness prevention programs are based on a common set of key elements. These include management leadership, worker participation, hazard identification, hazard prevention and control, education and training, and program evaluation and improvement. Visit OSHA's illness and injury prevention program web page at [www.osha.gov/dsg/topics/safetyhealth](http://www.osha.gov/dsg/topics/safetyhealth) for more information.

### **Compliance Assistance Specialists**

OSHA has compliance assistance specialists throughout the nation located in most OSHA offices. Compliance assistance specialists can provide information to employers and workers about OSHA standards, short educational programs on specific hazards or OSHA rights and responsibilities, and information on additional compliance assistance resources. For more details, visit [www.osha.gov/dcsp/compliance\\_assistance/cas.html](http://www.osha.gov/dcsp/compliance_assistance/cas.html) or call 1-800-321-OSHA [6742] to contact your local OSHA office.

### **Free On-site Safety and Health Consultation Services for Small Business**

OSHA's On-site Consultation Program offers free and confidential advice to small and medium-sized businesses in all states across the country, with priority given to high-hazard worksites. Each year, responding to requests from small employers looking to create or improve their safety and health management programs, OSHA's On-site Consultation Program conducts over 29,000 visits to small business worksites covering over 1.5 million workers across the nation.

On-site consultation services are separate from enforcement and do not result in penalties or citations. Consultants from state agencies or universities work with employers to identify workplace hazards, provide advice on compliance with OSHA standards, and assist in establishing safety and health management programs.

For more information, to find the local On-site Consultation office in your state, or to request a brochure on Consultation Services, visit

[www.osha.gov/consultation](http://www.osha.gov/consultation), or call 1-800-321-OSHA [6742].

### **Cooperative Programs**

OSHA offers cooperative programs under which businesses, labor groups and other organizations can work cooperatively with OSHA. To find out more about any of the following programs, visit [www.osha.gov/dcsp/compliance\\_assistance/index\\_programs.html](http://www.osha.gov/dcsp/compliance_assistance/index_programs.html).

### ***Strategic Partnerships and Alliances***

The OSHA Strategic Partnerships (OSP) provides the opportunity for OSHA to partner with employers, workers, professional or trade associations, labor organizations, and/or other interested stakeholders. OSHA Strategic Partnerships are formalized through unique agreements designed to encourage, assist, and recognize partner efforts to eliminate serious hazards and achieve model workplace safety and health practices. Through the Alliance Program, OSHA works with groups committed to worker safety and health to prevent workplace fatalities, injuries and illnesses by developing compliance assistance tools and resources to share with workers and employers, and educate workers and employers about their rights and responsibilities.

### ***Voluntary Protection Programs (VPP)***

The VPP recognize employers and workers in private industry and federal agencies who have implemented effective safety and health management programs and maintain injury and illness rates below the national average for their respective industries. In VPP, management, labor, and OSHA work cooperatively and proactively to prevent fatalities, injuries, and illnesses through a system focused on: hazard prevention and control, worksite analysis, training, and management commitment and worker involvement.

### **Occupational Safety and Health Training**

The OSHA Training Institute in Arlington Heights, Illinois, provides basic and advanced training and education in safety and health for federal and state compliance officers, state consultants, other federal agency personnel and private sector employers, workers, and their representatives. In addition, 27 OSHA Training Institute Education Centers at 42 locations throughout the United States deliver courses on OSHA standards and occupational safety and health issues to thousands of students a year.

For more information on training, contact the OSHA Directorate of Training and Education, 2020 Arlington Heights Road, Arlington Heights, IL 60005; call 1-847-297-4810; or visit [www.osha.gov](http://www.osha.gov).

### **OSHA Educational Materials**

OSHA has many types of educational materials in English, Spanish, Vietnamese and other languages available in print or online.

To view materials available online or for a listing of free publications, visit OSHA's web site at [www.osha.gov](http://www.osha.gov). You can also call 1-800-321-OSHA [6742] to order publications.

OSHA's web site also has a variety of eTools. These include utilities such as expert advisors, electronic compliance assistance, videos and other information for employers and workers. To learn more about OSHA's safety and health tools online, visit [www.osha.gov](http://www.osha.gov).

## **NIOSH Health Hazard Evaluation Program**

### **Getting Help with Health Hazards**

The National Institute for Occupational Safety and Health (NIOSH) is a federal agency that conducts scientific and medical research on workers' safety and health. At no cost to employers or workers, NIOSH can help identify health hazards and recommend ways to reduce or eliminate those hazards in the workplace through its Health Hazard Evaluation (HHE) Program.

Workers, union representatives and employers can request a NIOSH HHE. An HHE is often requested when there is a higher than expected rate of a disease or injury in a group of workers. These situations may be the result of an unknown cause, a new hazard, or a mixture of sources. To request a NIOSH Health Hazard Evaluation go to [www.cdc.gov/niosh/hhe/request.html](http://www.cdc.gov/niosh/hhe/request.html). To find out more about the Health Hazard Evaluation Program:

- Call (513) 841-4382, or to talk to a staff member in Spanish, call (513) 841-4439; or
- Send an email to [HHERequestHelp@cdc.gov](mailto:HHERequestHelp@cdc.gov).

## OSHA Regional Offices

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### **Region I**

Boston Regional Office  
(CT\*, ME, MA, NH, RI, VT\*)  
JFK Federal Building, Room E340  
Boston, MA 02203  
(617) 565-9860 (617) 565-9827 Fax

### **Region II**

New York Regional Office  
(NJ\*, NY\*, PR\*, VI\*)  
201 Varick Street, Room 670  
New York, NY 10014  
(212) 337-2378 (212) 337-2371 Fax

### **Region III**

Philadelphia Regional Office  
(DE, DC, MD\*, PA, VA\*, WV)  
The Curtis Center  
170 S. Independence Mall West  
Suite 740 West  
Philadelphia, PA 19106-3309  
(215) 861-4900 (215) 861-4904 Fax

### **Region IV**

Atlanta Regional Office  
(AL, FL, GA, KY\*, MS, NC\*, SC\*, TN\*)  
61 Forsyth Street, SW, Room 6T50  
Atlanta, GA 30303  
(678) 237-0400 (678) 237-0447 Fax

### **Region V**

Chicago Regional Office  
(IL\*, IN\*, MI\*, MN\*, OH, WI)  
230 South Dearborn Street  
Room 3244  
Chicago, IL 60604  
(312) 353-2220 (312) 353-7774 Fax

### **Region VI**

Dallas Regional Office  
(AR, LA, NM\*, OK, TX)  
525 Griffin Street, Room 602  
Dallas, TX 75202  
(972) 850-4145 (972) 850-4149 Fax  
(972) 850-4150 FSO Fax

**Region VII**

Kansas City Regional Office  
(IA\*, KS, MO, NE)  
Two Pershing Square Building  
2300 Main Street, Suite 1010  
Kansas City, MO 64108-2416  
(816) 283-8745 (816) 283-0547 Fax

**Region VIII**

Denver Regional Office  
(CO, MT, ND, SD, UT\*, WY\*)  
Cesar Chavez Memorial Building  
1244 Speer Boulevard, Suite 551  
Denver, CO 80204  
(720) 264-6550 (720) 264-6585 Fax

**Region IX**

San Francisco Regional Office  
(AZ\*, CA\*, HI\*, NV\*, and American Samoa,  
Guam and the Northern Mariana Islands)  
90 7th Street, Suite 18100  
San Francisco, CA 94103  
(415) 625-2547 (415) 625-2534 Fax

**Region X**

Seattle Regional Office  
(AK\*, ID, OR\*, WA\*)  
300 Fifth Avenue, Suite 1280  
Seattle, WA 98104  
(206) 757-6700 (206) 757-6705 Fax

\* These states and territories operate their own OSHA-approved job safety and health plans and cover state and local government employees as well as private sector employees. The Connecticut, Illinois, New Jersey, New York and Virgin Islands programs cover public employees only. (Private sector workers in these states are covered by Federal OSHA). States with approved programs must have standards that are identical to, or at least as effective as, the Federal OSHA standards.

Note: To get contact information for OSHA area offices, OSHA-approved state plans and OSHA consultation projects, please visit us online at [www.osha.gov](http://www.osha.gov) or call us at 1-800-321-OSHA (6742).

## How to Contact OSHA

For questions or to get information or advice, to report an emergency, report a fatality or catastrophe, order publications, sign up for OSHA's e-newsletter *QuickTakes*, or to file a confidential complaint, contact your nearest OSHA office, visit [www.osha.gov](http://www.osha.gov) or call OSHA at 1-800-321-OSHA (6742), TTY 1-877-889-5627.

**For assistance, contact us.  
We are OSHA. We can help.**





**U.S. Department of Labor**

**For more information**



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