

# Screening and Surveillance: A Guide to OSHA Standards



U.S. Department of Labor  
Occupational Safety and Health Administration

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This informational booklet is intended to provide a generic, non-exhaustive overview of a particular standards-related topic. This publication does not itself alter or determine compliance responsibilities, which are set forth in OSHA standards themselves, 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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# Screening and Surveillance: A Guide to OSHA Standards

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The Occupational Safety and Health Administration (OSHA) receives many inquiries about the “medical surveillance” provisions of its standards. This guide is a quick reference to help you locate and implement the screening and surveillance requirements of the OSHA standards in *Title 29 of the Code of Federal Regulations (29 CFR)*.

The guide provides a general overview of OSHA requirements, but is not a legal authority for compliance with them. 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).

**NOTE TO EMPLOYERS:**

Please remember, more than one standard may apply in your workplace. If so, you must meet all the screening and surveillance requirements for all the standards that apply. For further information, contact your Regional OSHA office listed at the end of this publication and on OSHA’s home page on the Internet at [www.osha.gov](http://www.osha.gov).

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**BP** - blood pressure

**BUN** - blood urea nitrogen

**CBC** - complete blood count

**FEF** - forced expiratory flow

**FEV<sub>1</sub>** - forced expiratory volume one second

**FSH** - follicle stimulating hormone

**FVC** - forced vital capacity

**HAZWOPER** - Hazardous Waste Operations and Emergency Response

**HBV** - hepatitis B virus

**LH** - luteinizing hormone

**MDA** - methylenedianiline

**PPE** - personal protective equipment

**PHS** or **USPHS** - United States Public Health Service

**SGOT** - serum glutamic oxalacetic transaminase

**SGPT** - serum glutamic pyruvic transaminase

**ZPP** - zinc protoporphyrin

<i>Standard Requirements</i>	
<i>Acrylonitrile</i> <i>1910.1045(n)/1926.1145/1915.1045*</i>	
<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

<b>Standard Requirements</b>	
<b>Arsenic (Inorganic) 1910.1018(n)/1926.1118/1915.1018*</b>	
<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>	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



<i>Standard Requirements</i>	
<i>Asbestos (General Industry) 1910.1001(I)</i>	
<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 $\pm$ 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
<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 effect of smoking and asbestos exposure
<b>Medical removal plan</b>	No

<b>Standard Requirements</b>	
<b>Asbestos (Construction and Shipyards) 1926.1101(m)/1915.1001</b>	
<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
<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 effect of smoking and asbestos exposure
<b>Medical removal plan</b>	No

<i>Standard Requirements</i>	
<b><i>Benzene</i></b> <b><i>1910.1028(i)/1926.1128/1915.1028*</i></b>	
<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

<b>Standard Requirements</b>	
<b>Bloodborne Pathogens 1910.1030(f)</b>	
<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 US 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 health care professional to employer; employer to employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes—by licensed health care professional; counseling re: HBV vaccine and post-exposure followup; see standard
<b>Medical removal plan</b>	No

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<i>Standard Requirements</i>	
<b>1, 3-Butadiene 1910.1051(k)/1926.1151*</b>	
<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>	CBC with differential and platelet count, annually; 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 health care professional to employer and employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes—by physician or other licensed health care professional
<b>Medical removal plan</b>	No

<b>Standard Requirements</b>	
<b>Cadmium</b> <b>1910.1027(l)/1926.1127/1915.1027/1928.1027*</b>	
<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
<b>Chest x-ray</b>	Yes
<b>Pulmonary function test (PFT)</b>	FVC, FEV <sub>1</sub>
<b>Other required tests</b>	Annually, <sup>1</sup> 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

<b>Standard Requirements</b>	
<b>Carcinogens (Suspect)</b> <b>1910.1003-1016(g)/1926.1103/1915.1003-1016*</b>	
<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</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

<b>Standard Requirements</b>	
<b>Coke Oven Emissions 1910.1029(j)</b>	
<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



<i>Standard Requirements</i>	
<i>Compressed Air Environments 1926.803(b)</i>	
<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

<b>Standard Requirements</b>	
<b>Cotton Dust 1910.1043(h)</b>	
<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 (6 months)

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<i>Standard Requirements</i>	
<b>1,2-Dibromo-3-chloropropane 1910.1044(m)/1926.1144/1915.1044*</b>	
<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

<b>Standard Requirements</b>	
<b>Ethylene Oxide 1910.1047(i)/1926.1147*</b>	
<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

<i>Standard Requirements</i>	
<i>Formaldehyde</i> <i>1910.1048(I)/1926.1148/1915.1048*</i>	
<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 systems these body</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

<b>Standard Requirements</b>	
<b>HAZWOPER 1910.120(f)/1926.65*</b>	
<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

<i>Standard Requirements</i>	
<i>Hazardous Chemicals in Laboratories 1910.1450(g)</i>	
<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

<b>Standard Requirements</b>	
<b>Lead 1910.1025(j)/1926.62*</b>	
<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
<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



<i>Standard Requirements</i>	
<i>Methylenedianiline 1910.1050(m)</i>	
<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

<b>Standard Requirements</b>	
<b>Methylene Chloride 1910.1052(j)/1926.1152*</b>	
<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</b>	No—unless deemed necessary by physician or other licensed health care 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—as specified under the respiratory protection standard 1910.134(e)
<b>Additional tests if deemed necessary</b>	Yes
<b>Written medical opinion</b>	Yes—physician or other licensed health care professional to employer and employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes—by physician or other licensed health care professional
<b>Medical removal plan</b>	Yes

<i>Standard Requirements</i>	
<b>Noise</b> <b>1910.95(g)/1926.52<sup>†</sup></b>	
<b>Pre-placement exam</b>	No physical exam but audiometric testing required
<b>Periodic exam</b>	No physical exam but audiometric testing required
<b>Emergency/exposure examination and tests</b>	No
<b>Termination exam</b>	No physical exam but audiometric testing required
<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

<b>Standard Requirements</b>	
<b>Respiratory Protection 1910.134(e)/1926.103*</b>	
<b>Pre-placement exam</b>	Evaluation questionnaire or exam; followup 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, Appendix C
<b>Chest x-ray</b>	As determined by physician or other licensed health care professional
<b>Pulmonary function test (PFT)</b>	As determined by physician or other licensed health care professional
<b>Other required tests</b>	As determined by physician or other licensed health care 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 health care professional to employer and employee
<b>Employee counseling re: exam results, conditions of increased risk</b>	Yes—by physician or other licensed health care professional
<b>Medical removal plan</b>	No

<i>Standard Requirements</i>	
<b>Vinyl Chloride</b> <b>1910.1017(k)/1926.1117*</b>	
<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>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.

†1926.52 requires an effective and continued hearing conservation program. OSHA has interpreted this to include audiograms when feasible. See letter of interpretation dated August 4, 1992.

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\*These states and territories operate their own OSHA-approved job safety and health programs (Connecticut and New York plans cover public employees only). States with approved programs must have a standard that is identical to, or at least as effective as, the federal standard.