

OSHA Training Requirements and Guidelines for K–14 School Personnel

This brief paper provides a summary of OSHA training requirements and guidelines, at both the national and state level, as determined by state. It provides training guidelines, characteristics of an acceptable trainer, and topics that are required among various states. Authored by Linda M. Stroud, PhD, NSTA Safety Advisory Board, Chair, 2009–2010; and Kenneth R. Roy, PhD, NSTA Science Safety Compliance Consultant.

Introduction

In 1970, Congress passed the Occupational Safety and Health Act (OSHA), which contains federal regulations set forth by the U.S. Department of Labor. The purpose of OSHA is to ensure that employers provide a safe, healthy workplace for employees. Federal OSHA does not cover public sector employees; however, private employees are covered. Its coverage of schools is limited to private schools in states that have federal OSHA jurisdiction. Federal OSHA states, such as Pennsylvania, have their own specific labor laws for public sector employees. State-plan states, such as Arizona, North Carolina, and South Carolina, have jurisdiction over public sector employers, private employers, employees including public school systems and their employees under OSHA’s General Industry Standards. The exceptions to this model are the OSHA state-plans for Connecticut, New Jersey, New York, and the Virgin Islands. These states and territory cover only public employees. To quote from the OSHA government website:

“If you work in the private sector, you are covered by an OSHA regional office under federal OSHA or an OSHA program operated by your state government. Public sector workers in states that run their own OSHA programs are covered by those states. **Public sector workers are not covered in states under federal OSHA jurisdiction.**”

Currently, OSHA has approved state-plans for 24 states and 2 territories (see Table 1). States that are not OSHA states operate under the auspices of the federal OSHA plan. Often, these states will also have additional state occupational health and safety laws that require employers’ compliance. These states decide which standards apply and if there is compliance. For example, as an OSHA state, North Carolina either adopts the federal OSHA plan directly or adopts a more stringent version. Charter schools are public schools in that they are governed by the states’ boards of education. Of special note is the fact that OSHA regulations apply to only workers/employees and not students. However, educators have a moral and ethical obligation to protect students in addition to a legal/professional/best practice duty. Failure to protect students under duty or standard of care can result in school personnel being charged with negligence.

Each state-plan state must develop its own targeting schedule for conducting random programmed inspections in public and private sector establishments. Inspections can be random programmed; however, they are most likely due to complaints from a disgruntled employee or parent or an increase in accidents or a death. OSHA can also inspect associated school campuses if one school they inspect has significant violations. It is most often during these inspections that OSHA discovers that training of employees is either absent or inadequate. It also can determine if the employer is enforcing their written safety plans.

While it is essential to have certain required written plans containing certain required content, do not write anything in the plans that is not implemented or enforced by your school or school system.

Table 1.
State-Plan OSHA States and Federal OSHA States

State-Plan States				Federal states			
*AK	*KY	*NY	*VT	AL	**IL	MT	**RI
*AZ	*MD	*NC	*VA	AR	KS	**NE	SD
*CA	*MI	*OR	*VI	CO	LA	NH	TX
*CT	*MN	*PR	*WA	DE	**ME	**ND	WV
*HI	*NV	*SC	*WY	**FL	MA	**OH	**WI
*IN	*NJ	*TN		GA	MS	**OK	
*IO	*NM	*UT		ID	MO	PA	

*State-Plan states
Connecticut, New Jersey, New York and Virgin Islands cover only the public sector (State & local government) employment. The other 22 cover the public and private sector employment.

States with no asterisks are under the Federal OSHA plan only.

**Federal Plan states adopted other regulations requiring public sector compliance.
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Section 5(a)(2) of the Occupational Safety and Health Act of 1970 does require that each employer "... shall comply with occupational safety and health standards promulgated under this Act." There are over 100 OSHA standards that require training. These requirements reflect OSHA's belief that training is an essential part of every employer's safety and health program for protecting workers from injuries and illnesses. Training must be given by a knowledgeable presenter who can interact with participants and answer questions. Training requires the employer to evaluate or verify that employees comprehend the training given to them. This means that the training to be given must have established goals and objectives. Data supports that employees new on the job have a higher rate of accidents and injuries than more experienced workers. If ignorance of specific job hazards and of proper work practices is even partly to blame for this higher injury rate, then training will help provide a solution.

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Training Guidelines

OSHA has developed guidelines with a model for designing, conducting, evaluating, and revising training programs. The guidelines are designed to help employers

- determine whether a worksite problem can be solved by training;
- determine what training, if any, is needed;
- identify goals and objectives for the training;

- design learning activities;
- conduct live training with a knowledgeable person;
- determine the effectiveness of the training; and
- revise the training program based on feedback from employees, supervisors, and others.

The guidelines are not mandatory; however, a training program is mandatory. Ideally, safety and health training should be provided before reporting to the job assignment and before problems or accidents occur. This training would cover both general safety and health rules and work procedures. Refresher training will be repeated if an accident or near miss incident occurs, job assignment changes, new information becomes available, or if the standard mandates annual training.

Maintenance, custodians, cafeteria workers, science teachers, CTE-art teachers, technology education teachers, agri-science teachers, and other teachers and school personnel will need some training that is specialized and common to all groups. In Table 2 the requirements and frequency of training of OSHA standards are listed for school personnel. Standards that require written plans are also listed.

Trainer Characteristics

It is also important that the training program be matched to the employees. The trainer needs to have an understanding of the workplace organization. Employers should check the credentials of the trainer to ensure the trainer is competent in understanding OSHA regulations and prudent safety practices. A safety trainer needs to be actively involved in personal professional development and active professionally.

Table 2.
29 CFR §1910 OSHA General Industry Standards Training Requirements for School Personnel

Standard	Title	Personnel	Written Plans / Training
Subpart E 1910.33-39 1910.38 (a)(5)(i),(ii)(a)-(c);(iii); (b)(4)(i);(ii) 1910.39 (d)	Exit Routes, Emergency Action Plans, Fire Prevention Plans	All	1910.38 Emergency Action Plan¹ 1910.39 Fire Protection Plan Initial assignment & changes in workplace ²
Subpart F 1910.66-67 1910.66 (i), (ii), (ii)(A) - (E) & (iii)(v)	Powered Platforms, Manlifts, & Vehicle Mounted Platforms, Personal Fall Arrest Systems ³	CTE- Automotive, Welding, (Shops), Maintenance	Initial assignment & changes in workplace
Subpart G 1910.94 (d)(9)(vi); (d)(11)(v)	Occupational Health & Environmental Control	Maintenance, CTE	Initial assignment & changes in workplace
Subpart G 1910.95 (i)(4);(k)(1)-(3)(i) - (iii)	Occupational Noise Exposure	All	Hearing Protection Program (if action

			level 85 decibels exceeded) Initial assignment & changes in workplace
Subpart H 1910.106 (b)(5)(v)(2)-(3)	Flammable & Combustible Liquids	Maintenance, CTE, Science, Art, All	Initial assignment & changes in workplace
Subpart H 1910.110 (b)(16);(d)(12)(i)	Storage & Handling of Liquefied Petroleum Gases ³	Maintenance, CTE, Science, Art	Initial assignment & changes in workplace
Subpart H 1910.120 (e)(1)(i), (ii); (2)(i)-(vii); (3)(i)-(iv), (4)-(9); Appendix C;(o)(i); (p)(8)(iii)(A)-(C); (p)(7)(i) -(iii); (q) (4); (q)(5); (q)(6)(i)-(A) (F); (iii) (A)-(I); (iv)-(A) (I); (v)(A)-(F); (q)(7)	HAZWOPER & Emergency Response ³	Maintenance & Emergency Responders at school district level	Emergency Response Program Initial & annually Special training requirements based on job level assignment Trainers require special certification
Subpart I 1910.132	Personal Protective Equipment	All	Hazard Assessment Plan for .132-138 Initial assignment & changes in workplace
Subpart I 1910.133 (f)(1)(i)-(v); (2), (3)(i)-(iii); (4)	Eye & Face Protection	All	Initial assignment & changes in workplace
Subpart I 1910.134 (k)(1)(i)-(vii); (2), (3),(5)(i) -(iii)	Respiratory Protection ³	Maintenance & CTE	Respiratory Protection Plan Initial assignment & changes in workplace
Subpart J 1910.145 (c)(1)(ii); (2)(ii); (3)	Safety Instruction for Accident Prevention & Tags	All	Initial assignment & changes in workplace
Subpart J 1910.146 (g)(1), (2)(i)-(iv)(3); (4);(k)(1)(i)(iv)	Permit-required Confined Spaces ³	Maintenance	Confined Space Plan Initial assignment & changes in workplace
Subpart J 1910.147 (a)(3)(ii); (4)(i)(D); (7)(i)(A)-(C); (ii)(A)-(F); (iii)(A)-(C)(iv); (8); (e)(3); (f)(2)(i)	Control of Hazardous Energy (Lockout/Tagout)	Maintenance, Science, Custodians	Lockout / Tagout Plan Initial assignment & changes in workplace
Subpart K 1910.151 (a) and (b)	Medical Services & First Aid	First Responders, Emergency	Initial assignment & changes in workplace

		Rescue Personnel	
Subpart L 1910.155(c)(iv)(41)	Fire Protection	Anyone expected to use a fire extinguisher	Fire Protection Program Initial assignment & changes in workplace
Subpart L 1910.157(g)(1), (2), and (4)	Portable Fire Extinguishers	Anyone expected to use a fire extinguisher	Initial assignment & changes in workplace
Subpart L 1910.158(e)(2)(vi)	Fixed Extinguishing Systems	Custodians if they inspect extinguishers, Maintenance	Initial assignment & changes in workplace
Subpart L 1910.160(b)(10)	Fixed Extinguishing Systems ³	Maintenance	Initial assignment & changes in workplace
Subpart L 1910.164(c)(4)	Fire Detection Systems ³	Maintenance, Custodians	Initial assignment & changes in workplace
Subpart L 1910.165(d)(5)	Fire Alarm Systems ³	Maintenance, Custodians	Initial assignment & changes in workplace
Subpart N 1910.177(c)(1)(i)-(iii); (2)(i)-(viii); (3) Includes single-piece wheels per Federal Register of February 3, 1984 (pp. 4338-4352) but not automobile or truck tires marked "LT."; (f)(1); (2)(i) and (ii); (3)-(11); (g)(1)-(12)	Servicing multipiece & single-piece rim wheels ³	Maintenance	Initial assignment & changes in workplace
Subpart N 1910.178(1)	Powered Industrial Trucks ³	Maintenance & some Custodians	Initial assignment & changes in workplace
Subpart O 1910.211	Machinery & Machine Guarding	CTE, Maintenance, Cafeteria workers	Initial assignment & changes in workplace
Subpart O 1910.217(e)(2),(3); (H)(13)(i)(A)-(E), (ii)	Mechanical Power Presses ³	Maintenance, Shop (CTE)	Initial assignment & changes in workplace
Subpart Q 1910.252(a)(2)(xiii)(C)	Welding, Cutting & Brazing ³	CTE (Shop), Maintenance	Initial assignment & changes in workplace
Subpart Q	Oxygen-Fuel Gas	CTE (Shop),	Initial assignment &

1910.255(a)(3)	Welding & Cutting ³	Maintenance	changes in workplace
Subpart Q 1910.254(a)(3)	Arc Welding & Cutting ³	CTE (Shop), Maintenance	Subpart Q 1910.252 Initial assignment & changes in workplace
Subpart Q 1910.255(a)(3)	Resistance Welding ³	CTE (Shop), Maintenance	Initial assignment & changes in workplace
Subpart S 1910.332(b)(1)	Electrical ³	CTE, Science, Maintenance, Custodians,	Initial assignment & changes in workplace
Subpart Z 1910.1001(j)(7)(i)-(iii)(A)-(H)	Asbestos ⁴	Maintenance, Custodians, personnel exposed	Initial assignment & annually
Subpart Z 1910.1020(g)(1)(i)(iii), (g)(2)	Access to Employee Exposure & Medical Records, Employee Information	All	Initial assignment & annually
Subpart Z 1910.1028(j)(3)(i)-(iii)(A)& (B)	Benzene ⁴	Maintenance, Science, Art	Initial assignment & changes in workplace
Subpart Z 1910.1030(g)(2)(i);(ii)(A)- (C);(iii)(A)-(N);(ix)(A)-(C)	Bloodborne Pathogens	Recommend all employees	Bloodborne Pathogen Plan Initial assignment & annually
Subpart Z 1910.1048(j)(3)(i)-(iii)(A) & (B)	Formaldehyde ³	Formaldehyde	If data indicates exposure at or > 0.1ppm must train at Initial assignment & changes in workplace
Subpart Z 1910.1096(f)(3)(viii)Posting: 1910.1096(i)(2)	Ionizing Radiation	Anyone exposed	Initial assignment & changes in workplace
Subpart Z 1910.1200(h)(l),(2)(i)-(iii); (3)(i)- (iv)	Hazard Communication	All	Hazard Communication Plan Initial assignment & changes in workplace
Subpart Z 1910.1450(f)(1)(2); (f)(4)(i) (A)-(C) & (ii)	Occupational Exposure To Hazardous Chemicals in Laboratories	Science, School and School District Administrators	Chemical Hygiene Plan Initial assignment & changes in workplace

1 Bold type indicates written plan required.

2 *Changes in workplace* means a change in assignment, exposure, or new information.

3 These standards would apply only if job assignments were applicable to these standards.

4 These hazardous chemicals should not be in K–12 schools. If they are, written plans and training of personnel are required.

Training Evaluation

At the beginning of each training session, an evaluation to determine the knowledge base and understanding of safety regulations and procedures must be administered to employees. Likewise, upon completion of the training session, an evaluation must be given to participants to determine their understanding and mastery of the OSHA standard taught and the training program goals. Participant performance will be an indication of the training program effectiveness. Methods of evaluating training are:

- Student opinion—questionnaires, informal discussion with employees
- Supervisors' observation
- Workplace improvements

OSHA standards indicate the training content. Initially, OSHA standards were taken from three sources:

- Consensus standards—developed by industrywide standard-developing organizations such as the American National Standards Institute (ANSI) and the National Fire Protection Association (NFPA). (e.g., ANSI Z87.1-2003 and NFPA No. 30-1969). These standards are agreed upon through consensus by the industry.
- Proprietary standards—prepared by professional experts within specific industries, professional societies and associations (e.g., Compressed Gas Association “Pamphlet P-1, Safe Handling of Compressed Gases”). These standards are determined by a straight membership vote.
- Pre-existing federal laws—enforced by OSHA such as the Federal Supply Contracts Act (Walsh-Healey relates to control of air contaminants).

Training and evaluation must include detailed information of NFPA and ANSI standards. Professional organizations such as the American Chemical Society and the National Science Teachers Association also have an impact on laboratory safety. Professional standards are evidence of “best practices” in the profession (industry) and may define the duty of care that educators owe to students.

“In analyzing the duty or standard of care owed by a teacher, school, etc. to take reasonable precautions to ensure the safety of employees and students, courts often look at industry standards to provide evidence of the standard of care in the specific industry. While these standards are not necessarily a definitive statement as to what the standard of care is for a particular industry—as the court must make the legal determination as to what the standard in the industry actually is for a particular set of facts—often the industry standard is the best evidence of what the standard of care should be in a particular situation. When industry groups reach consensus on a particular issue, such as the ANSI standard for eyewear, the

court has a much easier task in reaching a decision than when there is conflict in a standard.” Kelly Ryan, Esq., Ryan Law Firm, Pasadena, California

Training Documentation

OSHA requires the employer to certify that employees have been trained in required OSHA standards. OSHA/State OSHA can request to see employee documentation records as well as question employees on training when they are inspecting school sites. OSHA requires the employer to keep records of all health and safety training. Records can provide evidence of the employer's good faith and compliance with OSHA standards. Documentation can also supply an answer to one of the first questions an accident investigator will ask: "Was the injured employee trained to do the job?" (see Table 3).

Training in the proper performance of a job is time and money well spent, and the employer might regard it as an investment rather than an expense. An effective program of health and safety training for workers can result in fewer injuries and illnesses, better morale, and lower insurance premiums, among other benefits. A checklist such as in Table 3 is quite useful to school personnel to track individual personnel who were trained, when they were trained, and the standards in which they received training.

Table 3.

Safety Training Checklist Documentation*
Linda M. Stroud, S&SCS
Kristen Hellier—Middle School Science Coordinating Teacher
Wake County Public School System, Raleigh, North Carolina

Standard	Title	Written Plans / Training	Initial training		
			Date:	Date:	Date:
Subpart E 1910.33-39 1910.38((a) (5)(i),(ii)(a) -(c);(iii); (b)(4)(i);(ii) 1910.39(d)	Exit Routes, Emergency Action Plans, Fire Prevention Plans	1910.38 Emergency Action Plan¹ 1910.39 Fire Protection Plan Initial assignment & changes in workplace ²	Date:	Date:	Date:
			Trained by:	Trained by:	Trained by:
Subpart G 1910.95(i) (4);(k)(1)- (3)(i) - (iii)	Occupational Noise Exposure	Initial assignment & changes in workplace	Date:	Date:	Date:
			Trained by:	Trained by:	Trained by:

Subpart H 1910.106 (b)(5)(v)(2) -(3)	Flammable & Combustible Liquids ³	Initial assignment & changes in workplace	Date: Trained by:	Date: Trained by:	Date: Trained by:
Subpart I 1910.132	Personal Protective Equipment	Hazard Assessment Plan for .132-138 Initial assignment & changes in workplace	Date: Trained by:	Date: Trained by:	Date: Trained by:
Subpart I 1910.133(f) (1)(i)-(v); (2), (3)(i)- (iii); (4)	Eye & Face Protection	Initial assignment & changes in workplace	Date: Trained by:	Date: Trained by:	Date: Trained by:
Subpart J 1910.147(a) (3)(ii); (4)(i)(D); (7)(i)(A)- (C); (ii)(A)-(F); (iii)(A)- (C)(iv); (8); (e)(3); (f)(2)(i)	Control of Hazardous Energy (Lockout /Tagout)	Initial assignment & changes in workplace	Date: Trained by:	Date: Trained by:	Date: Trained by:
Subpart L 1910.155(c) (iv)(41)	Fire Protection	Fire Protection Program Initial assignment & changes in workplace	Date: Trained by:	Date: Trained by:	Date: Trained by:

Subpart L 1910.157 (g)(1), (2), & (4)	Portable Fire Extinguishers	Initial assignment & changes in workplace	Date: Trained by:	Date: Trained by:	Date: Trained by:
Subpart S 1910.332 (b)(1)	Electrical	Initial assignment & changes in workplace	Date: Trained by:	Date: Trained by:	Date: Trained by:
Subpart Z 1910.1020 (g)	Access to employee exposure & records	Initial assignment & annually	Date: Trained by:	Date: Trained by:	Date: Trained by:
Subpart Z 1910.1030 (g)(2)(i);(ii)(A)-(C);(iii)(A)-(N);(ix)(A)-(C)	Bloodborne Pathogens	Bloodborne Pathogen Plan Initial assignment & annually	Date: Trained by:	Date: Trained by:	Date: Trained by:
Subpart Z 1910.1096 (f)(3)(viii) Posting: 1910.1096 (i)(2)	Ionizing Radiation	Initial assignment & changes in workplace	Date: Trained by:	Date: Trained by:	Date: Trained by:

Subpart Z 1910.1200 (h)(1),(2)(i) -(iii); (3)(i)-(iv)	Hazard Communication	Hazard Communication Plan Initial assignment & changes in workplace	Date: Trained by:	Date: Trained by:	Date: Trained by:
Subpart Z 1910.1450 (f)(1)(2); (f)(4)(i) (A)-(C) & (ii)	Occupational Exposure To Hazardous Chemicals in Laboratories	Chemical Hygiene Plan Initial assignment & changes in workplace	Date: Trained by:	Date: Trained by:	Date: Trained by:

* For a MS Word Version, contact LMStroud@sciencesafetyconsulting.com

1 Bold type indicates written plan required

2 *Changes in workplace* means a change in assignment, exposure, or new information

3 These standards would apply only if job assignments were applicable to these standards.

Written Plans

The following standards require schools and school districts to have written plans. Individual schools may not require a HAZWOPER Plan. Other standards likewise may not apply depending on exposure to hazards by employees (i.e., if the noise level does not exceed the action level of 85 decibels, a hearing conservation program would not be required).

1910.38 Emergency Action Plan

1910.39 Fire Protection Plan

1910.95 Hearing Conservation Program *

1910.119 Process Safety Management

1910.120 Emergency Response Program for HAZWOPER *

1910.132 Hazard Assessment Plan for 1910.133-138

1910.134 Respiratory Protection Plan³

1910.146 Confined Space Plan³

1910.147 The control of hazardous energy (Lockout/Tagout)

1910.155 Fire Protection Program

1910.1030 Bloodborne Pathogen Plan

1910.1200 Hazard Communication Plan

1910.1450 Chemical Hygiene Plan

1904 Injury and Illness Recordkeeping and Reporting Systems

Vehicle Accident Prevention Plan (state dependent)

Workplace Violence Policy

Workplace Violence

There are currently no specific OSHA standards for workplace violence regardless of the fact workplace violence plans are mandated by many state boards of education and/or by state law. However, Sections 5(a)(1) and 5(a)(2) of the OSHA Act, often referred to as the General Duty Clause, mandate employers to "furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees." Workplace violence is interpreted through this prime directive.

Additional regulatory standards such as the Hazard Communications Standard, the Laboratory Standard, the Bloodborne Pathogens Standard, Emergency Action Plans, Hazardous Materials, and others, provide direction toward meeting this "prime directive."

The school building or facility should have security needs addressed relative to workplace violence. This is the first "line of defense!" These simple recommended procedures will not guarantee a 100% secure workplace. However, they will raise everyone's level of awareness and help the building become more secure—both physically and psychologically! Recommended general procedures should include the following areas of focus:

- Designated Reception Area;
- Employees—photo identification;
- Visitors—signed in and escorted;
- Employees—photo identification;
- Strangers—challenge any unaccompanied stranger(s) in the workplace;
- Mail—Employees should be trained and be provided with personal protective equipment (e.g., vinyl gloves) to sort mail;
- Lockdown/Evacuation Procedures—Employers should develop both lockdown and evacuation procedures.

Recommended Science Department Procedures:

- Lab Entrances, Exits, Stairways, and Hallways—All means of egress should be clear and unobstructed to allow for safe evacuation.
- Laboratory Access—All access doors to laboratories should be posted as laboratories. All doors should remain closed and locked when unattended.
- Safety Equipment Operation—All showers and eyewash equipment must be inspected weekly and be in operational order in areas housing or using hazardous materials.
- Personal Protective Equipment—Safety splash goggles, safety glasses, gloves, aprons, etc., should be easily accessed and in good condition.
- Fire Extinguishers—ABC-rated fire extinguishers should be available in the laboratories, storerooms, and preparation rooms.
- Pressurized Gas—All pressurized gas cylinders must be placed in an upright position and properly secured.
- Electrical Energy—All circuits in science laboratories, preparation, and storerooms should have ground fault circuit interrupter protection (GFCI), in addition to easily accessible master shutoff

- switches with appropriate signage.
- Gas Energy—All laboratories, preparation, and storerooms should have master gas shutoffs with appropriate signage.
- Water—Master water shutoff valves should be easily accessible with appropriate signage.
- Fume Hoods—Fume or exhaust hoods are required to have annual inspections for appropriate operation such as face velocity.
- Hazardous Chemical Storage—All hazardous chemicals should be properly labeled, dated, and stored. The areas housing hazardous chemicals should have restricted access and a high level of security.
- Laboratory Hygiene—No drinking, eating, smoking, etc., should be permitted in the laboratory, save exceptions approved by the chemical hygiene officer.
- Appliances—All appliances such as refrigerators, microwaves, ovens, etc., should be appropriately labeled for intended use.
- Ventilation—Laboratory and preparation rooms should have “negative pressure” relative to corridors.
- Housekeeping—Appropriate housekeeping must be secured to reduce or eliminate trip/fall hazards, provide adequate clearance of sprinkler systems, provide access to emergency equipment, have an unobstructed means of egress, etc.
- Emergency Lighting—Emergency lighting should be available to assist evacuation in power outages as appropriate.
- Evacuation Plans—Evacuation plans should be posted in appropriate sites, in addition to emergency numbers. All laboratories, preparation rooms, and storerooms should have communication access in cases of emergency.

Flinn Scientific has developed the following table (Table 4). Refer to your specific state to determine specific written plans which differ depending on whether the state is a state-plan OSHA state or federal OSHA state. Delaware, Georgia, Massachusetts, North Dakota, and Texas do not require schools to have a chemical hygiene plan; however, all aspects of 29 CFR 1910.1200 – Hazard Communication (Right to Know) are required. Missouri does not require labeling of chemicals or training of school personnel. All other states require both labeling of chemicals and training. Some states, such as Massachusetts, recommend that public schools follow the basic concepts of the OSHA laboratory standard, 29 CFR 1910.1450 as well as comply with the specific state laws pertaining to the facility.

Table 4. Right-to-Know Law Analysis

Right to Know Law Analysis

State	Chemical Hygiene Plan	MSDS Required	List/Inventory Required	Training	Labeling Required	Special Comments
Federal OSHA	✓	✓	✓	✓	✓	
Alabama	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Alaska	✓	✓	✓	✓	✓	Very similar to the Federal OSHA Standard.
Arizona	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Arkansas	✓	✓	✓	✓	✓	Written hazard communication program required.
California	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Colorado	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Connecticut	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Delaware	No	✓	✓	✓	✓	An employee Right to Know Law.
District of Columbia	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Florida	✓	✓	✓	✓	✓	Requires providing a list of hazardous materials to fire department.
Georgia	No	✓	✓	✓	✓	Written school safety plan required.
Hawaii	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Idaho	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Illinois	✓	✓	✓	✓	✓	Notify your fire department regarding any toxic materials.
Indiana	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Iowa	✓	✓	✓	✓	✓	Follows Federal OSHA Standard. Requires a written training program.
Kansas	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Kentucky	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Louisiana	✓	✓	✓	✓	✓	Requires an emergency response guidebook.
Maine	✓	✓	✓	✓	✓	Requires a written training and hazardous communication program.
Maryland	✓	✓	✓	✓	✓	Requires a list of hazardous materials be sent to the Dept. of Environment.
Massachusetts	No	✓	✓	✓	✓	Written hazard communication program recommended.
Michigan	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Minnesota	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Mississippi	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Missouri	✓	✓	✓	No	No	Provide MSDS to your fire department.
Montana	✓	✓	✓	✓	✓	A list of hazardous materials should be provided to the county.
Nebraska	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Nevada	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
New Hampshire	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
New Jersey	✓	✓	✓	✓	✓	A hazardous materials list must be submitted to the NJ Department of Health.
New Mexico	✓	✓	✓	✓	✓	Requires the written hazard communication program.
New York	✓	✓	✓	✓	✓	Requires the written hazard communication program.
North Carolina	✓	✓	✓	✓	✓	Be given to your fire department for large quantities of chemicals on premises.
North Dakota	No	✓	✓	✓	✓	Requires a written training and hazardous materials communication program.
Ohio	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Oklahoma	✓	✓	✓	✓	✓	Requires a written training program. Requires the CAS number be on the label.
Oregon	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Pennsylvania	✓	✓	✓	✓	✓	Give a list of the hazardous materials to your fire and police departments.
Rhode Island	✓	✓	✓	✓	✓	Hazardous materials list must be sent to Dept. of Labor and fire department.
South Carolina	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
South Dakota	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Tennessee	✓	✓	✓	✓	✓	Similar to the Federal OSHA Standard.
Texas	No	✓	✓	✓	✓	You may have to provide MSDS or a list of hazardous agents to your fire dept.
Utah	✓	✓	✓	✓	✓	Requires a written hazard communication program.
Vermont	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Virginia	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Washington	✓	✓	✓	✓	✓	Requires a written hazard communication program.
West Virginia	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.
Wisconsin	✓	✓	✓	✓	✓	An employee Right to Know Law.
Wyoming	✓	✓	✓	✓	✓	Identical to the Federal OSHA Standard.

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In Subpart Z -Toxic and Hazardous Chemicals, Standards 29 CFR 1910.1001–1052 require written plans. This group of standards are specific for especially toxic hazardous chemicals such as asbestos, cadmium, formaldehyde, lead, chromium (IV), benzene, and others in the following list should be banned from schools; therefore no plan would be required if the chemicals are not present in schools. These chemicals require specialized monitoring of chemical concentrations, monitoring and training of personnel, and often specific written plans. Less hazardous chemicals can be substituted for these chemicals in K–12 schools; however, in colleges and universities, strict protocols need to be followed when using these chemicals.

- 1910.1003 – 4-Nitrobiphenyl
- 1910.1004 – alpha-Naphthylamine
- 1910.1006 – Methyl chloromethyl ether
- 1910.1007 – 3,3'-Dichlorobenzidine (and its salts)
- 1910.1008 – bis-Chloromethyl ether
- 1910.1009 – beta-Naphthylamine
- 1910.1010 – Benzidene
- 1910.1011 – 4-Aminodiphenyl
- 1910.1012 – Ethyleneimine
- 1910.1013 – beta-Propiolactone
- 1910.1014 – 2-Acetylamino fluorene
- 1910.1015 – 4 Dimethylaminoazo-benzene
- 1910.1016 – N-Nitrosodimethylamine
- 1910.1017 – Vinyl Chloride
- 1910.1018 – Inorganic Arsenic
- 1910.1025 – Lead
- 1910.1026 – Chromium (VI)
- 1910.1027 – Cadmium
- 1910.1028 – Benzene
- 1910.1044 – 1,2-Dibromo-3-chloropropane
- 1910.1045 – Acrylonitrile
- 1910.1047 – Ethylene oxide
- 1910.1048 – Formaldehyde
- 1910.1050 – Methylenedianiline
- 1910.1051 – 1,3-Butadiene
- 1910.1052 – Methylene chloride

In many cases, some of these plans may be combined as long as the requirements of each standard are met within the combined plan (e.g., the Hazard Communication and Chemical Hygiene Plan). Employers are required to provide employees with copies of the standards and written plans as well as training.

Conclusion

OSHA's General Duty Clause, Section 5(a)(2) of the Occupational Safety and Health Act of 1970, requires that each employer shall:

- furnish to each of his employees employment and a place of employment free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees and
- comply with occupational safety and health standards promulgated under this Act.

With 25 states and 2 territories approved as state-plan states, safety regulations can vary. This paper attempts to clarify which OSHA general industry standards require school compliance in training and written plans. OSHA's training requirements reflect its belief that training is an essential part of every employer's safety and health program for protecting workers from injuries and illnesses. Data supports that employees new on the job have a higher rate of accidents and injuries than more experienced workers. If ignorance of specific job hazards and of proper work practices is even partly to blame for this higher injury rate, then training will help to provide a solution. Clear objectives and goals must be incorporated into the training. OSHA requires the employer to evaluate or verify that employees comprehend the training given to them. The training must be delivered by a knowledgeable trainer who constantly updates their own professional development. All training requires the availability of a live knowledgeable trainer to answer participants' questions.

Flinn Chemical & Biological Catalog Reference Manual 2009, p. 1053, Flinn Scientific, Batavia, IL, www.flinnsci.com
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