

Health and Safety Guide for K-12 Schools in Washington State – 2024 Update of the 2003 Edition

References:

[Chapter 246-366 WAC](#): State Board of Health Rule for Primary and Secondary Schools
[Chapter 296-800 WAC](#): Safety and Health Core Rules
[DOSH Directive \(WRD\) 13.00 Emergency Washing Facilities](#)
[Chapter 296-24 WAC](#): GENERAL SAFETY AND HEALTH STANDARDS
 PART E HAZARDOUS MATERIALS, FLAMMABLE LIQUIDS, SPRAY FINISHING
 PART K COMPRESSED GAS AND COMPRESSED GAS EQUIPMENT
[Chapter 296-62 WAC](#): General Occupational Health Standards
[Chapter 296-806 WAC](#): Machine Safety
[Chapter 296-807 WAC](#): Portable Power Tools
[Chapter 296-901 WAC](#): GLOBALLY HARMONIZED SYSTEM FOR HAZARD COMMUNICATION
[RCW 28A.320.125: Safe school plans—Requirements—Duties of school districts and schools—Drills—Rules—First responder agencies. \(wa.gov\)](#)
[Chapter 51-52 WAC](#): STATE BUILDING CODE ADOPTION AND AMENDMENT OF THE 2021 EDITION OF THE INTERNATIONAL MECHANICAL CODE
[1910.1048 - Formaldehyde. | Occupational Safety and Health Administration \(osha.gov\)](#)
[1926.152 - Flammable liquids. | Occupational Safety and Health Administration \(osha.gov\)](#)
[Chapter 296-856 WAC](#): Formaldehyde
[fema earthquakes reducing-the-risks-of-nonstructural-earthquake-damage-a-practical-guide-fema-e-74.pdf](#)
[Chapter 70.100 RCW: EYE PROTECTION—PUBLIC AND PRIVATE EDUCATIONAL INSTITUTIONS \(wa.gov\)](#)
[Chapter 173-303 WAC](#): DANGEROUS WASTE REGULATIONS
[Schools | Washington State Department of Health](#) School Environmental Health and Safety – Resources
[Career & Technical Education \(CTE\) \(ospi.k12.wa.us\)](#)
[Microsoft Word - safetyguide.doc \(cdc.gov\)](#) SAFETY GUIDE FOR CAREER AND TECHNICAL EDUCATION 2002
[eCFR :: 29 CFR 1910.1450 -- Occupational exposure to hazardous chemicals in laboratories.](#)
 2021 Washington State Fuel Gas Code [Digital Codes \(iccsafe.org\)](#)
 2021 Washington State Mechanical Code [Digital Codes \(iccsafe.org\)](#)
 2021 Washington State Building Code [Digital Codes \(iccsafe.org\)](#)
 2021 Washington State Fire Code [Digital Codes \(iccsafe.org\)](#)
[F413-012-000 Employer's Guide to the Hazard Communication Rule \(wa.gov\)](#)
[Safer Metalworking Fluids \(wa.gov\)](#)

L. Career & Technology Education		WAC or other Code Reference	Standard/ Recommended Practice	Plan Review	Reason for Change
L 001	Reference the most current edition of the "Safety Guide for Career and Technology Education" (CTE) published by OSPI in 2002 . This manual provides instruction and checklists for vocational education curriculum areas. It can be downloaded from: http://www.k12.wa.us/CareerTechEd/techprep/default.asp DOH's School Environmental Health & Safety Program website has shop safety videos.		OSPI and DOH		
L 002	Based on OSPI's Safety Guide for CTE and good safety practice, school shop teachers should pay close attention to students' personal protective equipment (PPE) needs. Student-oriented safety training in vocational and visual arts hazards should be given, tested, and documented.	296-800- 140 , 160	OSPI and DOH		
L 003	Floors shall be clean and kept free of oil and other slippery substances. Non-skid (non-slip) surfacing shall be used within the operator use zone of all stationary equipment. See OSPI's "Safety Guide for CTE."	296-800-220 296- 80624 - 45005		X	

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L 004	Floors shall be free of obstacles so there are no slip, trip, or fall hazards. Hazard areas shall be plainly marked.- In metal and wood shops there should be at least two feet (or larger if required/recommended by the manufacturer) of clear work area around each piece of equipment. The safety zone should be marked). Projections shall be plainly marked.	296-800-220 296-806	DOH & OSPI	X	
L 005	All power tools shall be safe, properly labeled, and protected with correct belts, guards, and electrical connections following L & I requirements and manufacturer recommendations . All hand tools must be U-L- listed.	296- 800-280 296-806 206-80724-65501 & 15001 & 16501			
L 006	Machine guarding shall meet WAC 296-806 and 296-80724 . Safety guards must be properly adjusted and functional for safe machine operation.	296- 806 296-80724-150 Part C 296-24-15001		X	
L 007	Hand tools shall be properly maintained and kept in a safe condition.	296- 800-110 296-80724-65501			
L 008	Safety stands (jack stands) shall be available and used correctly by students and staff.	296- 800-110 296-807-170 24-67005			
L 009	Shop safety rules should be displayed in plain view of room occupants.	296-800-110	DOH & OSPI		
L 010	General operating instructions and safety reminder signs shall be posted on or near moving machinery and shop equipment.	296-800 296-806 296-807-435			
L 011	Unstable equipment (e.g., drill presses, band saws, etc.) shall be secured to the floor or a table/stand to prevent tipping or moving . Stand mounted equipment shall be fastened to the floor to prevent tipping.	296- 80624-15003			
L 012	Materials (e.g., lumber, metal, etc.) -shall be stored in a manner that will prevent personal injury. Proper storage shall be provided for metal stock as required by WISHA.	296-800-220		X	
L 013	All electrical panels, devices and connections shall be labeled and maintained in a safe condition. A clear and unobstructed means of access with a minimum width of 30 inches and a minimum height of 78 inches shall be maintained from the operating face of an electrical panel board. (C 022)	296-800-28022 296-800-28025 UFC 8509 29 CFR 1910.305(d) NEC 110.26 IFC		X	
L 014	Hazardous and/or combustible waste shall not be allowed to accumulate. Such waste shall be removed from the shop area and properly disposed of as required by Dept. of Ecology regulations.	296- 800-220 155-020 173-303		X	

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L 015	Waste oil storage and disposal shall comply with DOE-Dept. of Ecology regulations. Oil spilled around storage barrels shall be cleaned up immediately. Containers need to should be closed when not in use. <u>Secondary containment, spill pads on barrels and closing funnels are recommended for waste oil barrels.</u>	296-800-220 62-40009 173-303-515			
L 016	A non-asbestos fire blanket should be provided, identified, readily available, and visible to students and staff. <u>Fire blankets can be used to wrap a burn victim to douse flames as well as to cover a shock victim and to provide a privacy shield when treating a victim under a safety shower in the event of a chemical spill.</u> <u>NOTE: Shop personnel should be taught that fire blankets can be dangerous if used incorrectly. Wrapping a fire blanket around a person on fire can result in a chimney-like effect that intensifies, rather than extinguishes, the fire. Fire blankets should never be used on a person when they are standing. (K 046)</u>	296-62-40009	OSPI and DOH		
L 017	Project storage shall be adequate and safe.	246-366-050(7)	OSPI and DOH	X	
L 018	Emergency eye wash stations shall be within 50 feet or ten seconds of all student work stations and shall provide 2.5-0.4 gallons per minute for at least 15 minutes at 3025 PSI or less. Bottled water eye wash stations do not meet the current WISHA and DOH requirements. (They may be supplementary to units meeting the above specifications.) <u>See K 003-007a and the L&I DOSH Directive 13.00 for more requirements for emergency eye washes. Emergency Eye washes should be in shops where dust and metals can get in eyes, regardless of chemical requirements. Chemicals used may also require an emergency shower.</u>	296-800-15039		X	
<u>L018a</u>	<u>Emergency showers and eye wash units shall be inspected and tested for proper operation annually. Inspections should include examination of the piping, water temperature and quality, activation to check that the valves and other hardware work properly, and water flow rate. Plumbed emergency eye washes must be activated weekly. Written documentation of tests shall be maintained on-site.</u>				
L 019	All <u>bench</u> grinders shall have proper tool rests, <u>no more than a 1/8th inch on the tool rest, 1/16th inch for the sparker rest,</u> and eye safety shields- (<u>L 005, L 006</u>).	296-800-160 296-80624-078		X	

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L 020	Eye protective devices (safety glasses, goggles, full-face shields) are identified, visible, readily accessible and used by students and staff. Eye protection, safety glasses, goggles, and face shields shall meet the requirements of the American National Standards Institute (ANSI Z.87.1). Students shall wear personal protective equipment (PPE) when using corrosive, toxic, reactive, or irritating chemicals and during hazardous activities. (K 045)	296-800-160 RCW 70.100 296-24-70003 ANSI Z .87.1			
L 021	Mechanical ventilation shall be provided for all arc and gas welding/cutting tables in order to prevent welding vapors from traveling through the breathing zone.	246-366-080 296-24- 700 . 71503. 296-24-71505		X	
L 022	Welding curtains or shields shall be provided, <u>and kept in good condition</u> , at booths and other welding areas.	296-24- Part I ; 69007 296-24-71504		X	
L 023	Safety signs should be posted where needed <u>needed</u> , e.g., "turn on ventilation," "" "wear eye protection." L & I does not require signs; but schools should use them. when s Signs should be of are utilized , uniform design, including wording, shape, and color, are mandated .	296-24-135 B-2 296-24-14005 296-24-14007 296-24-14009	OSPI and DOH		
L 024	Master shut-offs shall be provided and identified for electricity and gas in all shop areas. A shut-off for water is recommended but not required. Master gas shutoffs are required. Master electricity and water shutoffs are recommended. Directional signs should be provided to the shutoffs as well as other safety items in all shop areas. The dedicated shutoff valve shall be readily accessible, located within the laboratory space served, located adjacent to the egress door from the space and shall be identified by approved signage stating, "Gas Shutoff." See 296-800-280 for basic electrical rules. Teachers need to be able to shut down electrical equipment quickly in an emergency.	296-800-280 51-52 / International Fuel Gas Code 409.6	OSPI & DOH	X	
L 025	Compressed gas cylinders shall must be properly labeled, maintained, stored, and secured, with caps in place, to prevent damage to the cylinder valve. Cylinder restraining devices must be adequate to prevent tipping and/or 'rocketing'. In-use cylinders must be secured either to a hand-truck or <u>permanent</u> structure.	296-24- 295 ; 688 204 296-24-68203		X	
L 026	The gas welding/cutting area shall comply with State Fire Code (IFC) and L & I WISHA requirements. Eye protection shields shall be provided. <u>Consult with your local Fire Department for required permits.</u>	296-24- 680 Part I Welding, Cutting, & Brazing Part I 296-24-68507 51-54A IFC Ch 35		X	

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L 027	Approved protective equipment shall be installed in fuel-gas piping to prevent backflow of oxygen into the fuel-gas supply system, passage of a flash back into the fuel-gas supply system and/or excessive back pressure of oxygen in the fuel-gas supply system. The three functions of the protective equipment may (or may not) be combined in one device.	296-24-6809(3)296-24-68201			
L028	All flammable liquids shall be stored in UFC and NFPA approved flammable storage cabinets with self-closing doors. Flammable wastes must be disposed of in approved flammable waste containers. Cabinets shall be locked or located in a locked room when not in use. Flammable waste containers must be emptied daily. Flammables (red labels), and acids, and bases (white labels), shall be stored separately. (K 036)	296-24-33009 51-54A UFC 7902.5.82403.4.3. 5704.3.4.4, Ch 57 173-303-630		X	
<u>L 028a</u>	Flammable liquids in excess of ten gallons total shall be stored in approved flammable storage cabinets as required by the state fire code. Consult with your local fire marshal for specifics on storage of flammables. (C 005)	51-54A IFC 5704.3.4.4 296-24-33009		<u>X</u>	
L 029	All solvents for parts cleaning shall be stored in approved containers. Class 1A flammable liquids shall not be used. Fusible links on solvent tank lids shall be in place and shall operate as designed.	WAFC2021P1 Pt05 Ch57 Sec5705.3.6.1 296-24-33009 296-24-40507		X	
L 030	Wood burning stoves should not be used in school buildings.	246-366-140		X	
L 031	Flammable finish areas and paint spray rooms shall have approved ventilation, filters, lighting, storage cabinets, and separation from other rooms. Consult with your local Fire Department for required permits.	296-24-370 296-62-11019 51-54A UFC Ch 24		X	
L 032	Filters in the paint spray booth/room shall be changed or cleaned as required. NOTE: Spray booth construction requirements are in the IFC Chapter 24.	296-24-37003 UFC WAFC2021 2404.3			
L 033	Only Class 1 electrical, explosion-proof lights, fan or other electrical devices shall be allowed in flammable finish areas.	296-24-370 UFC WAFC 2021 24042.3		X	
L 034	Ventilation and exhaust systems shall be installed in all shop areas in compliance with DOH and L & I WISHA rules.	246-366-080 296-800 296-62-Part L 41003 51-52/IMC Ch 4 & 5		X	

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L 035	<u>Adequate chip and s</u> Sawdust collection systems shall be installed in all wood shops <u>as required by code. Signs are required to reinforce restriction of hot work in areas where dust can accumulate. Combustible dusts must not be allowed to accumulate, and combustible dusts must NOT be cleaned using compressed air.</u>	<u>296-800</u> <u>296-62-4400313610</u> <u>WAFC 2021 Ch 22/2203.4.3-4</u> <u>NFPA 654, 664</u>		X	
L 036	The maximum ambient noise level in industrial arts, CTE (voc-ed), and trade classrooms constructed after 1/1/90 shall not exceed 65 dBA when all fume hoods and dust exhaust systems are operating. Testing shall be done when the room is unoccupied. (See Sound Control Section <u>H</u>).	246-366-110(4)		X	
<u>L 037</u>	<u>All chemicals, solvents, and hazardous substances shall be inventoried by the school a minimum of once a year. The inventory shall include the name of the compound, the amount, and the date it entered the school. A copy of the inventory shall be kept on file in a location away from the areas where the materials are stored. (K 001)</u>	<u>296-901</u> <u>RCW</u> <u>28A.320.125(3)(b)</u>			
<u>L 038</u>	<u>A current safety data sheet (SDS) shall be maintained for all hazardous substances used in CTE programs and shall be available for review upon request.</u>	<u>296-901</u>			
<u>L 039</u>	<u>In machine shops, no halogenated cutting fluids, adhesives or tapping oils should be used. Examples include perchloroethylene, trichloroethane and methylene chloride; all of which are suspected carcinogens. Also, halogenated organic compounds are designated as toxic persistent wastes.</u>	<u>173-303-100(6)</u>	<u>Employer's Guide to the Hazard Communication Rule</u> <u>ECY Safer Metalworking Fluids</u>		
<u>L 040</u>	<u>Among the CTE clusters that may also fall under the Laboratory Safety Standard are 1) Plant Pathology, 2) Agronomy, 3) ARS scientists, 4) Biochemists, 5) Horticulture Specialists, 6) Forest Geneticists and 7) Veterinarians. Any laboratory work done within these programs must either be done in CTE labs that conform with section K or be done in a science lab if hazardous chemicals are being used.</u>	<u>29 CFR</u> <u>1910.1450</u>			