Career & Technical Education: Safety/Hazardous Waste Plan

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SCHOOL DISTRICT
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BASIC TIMELINE:

ITEM	TRAINING	INSPECTIONS	HAZARDOUS WASTE REMOVAL
Basic Shop Safety – includes: High Schools: • ACE* • Aviation • Automotive* • Manufacturing • STEM • Welding** Junior High Schools: • Exploring Technology • Gateway to Technology	August – Instructors SafeSchools: • General Safety (15 min) • Compressed Gas Safety (13 min) • Hand & Power Tool Safety (18 min) • Forklift Safety* (17 min) • Welding, Cutting and Brazing Safe Awareness (22 min)**	September/November/ January/March/May	Annually – April
Basic Shop Safety Training	September and/or February – Students (beginning of first semester of course)		
Science Safety – includes: • Field Investigation • Biology Natural Resources • Marine Resources • Horticultural	August – Instructors SafeSchools: • Science Lab Safety (25 min) • Science Laboratory Chemical Spills (28 min)	September/November/ January/March/May	Annually - April
Science Safety Training	September and/or February – Students (beginning of first semester of course)		
Culinary Safety Training	September – Students • Food Handler Cards		Annually - April

HAZARDOUS CHEMICAL MANAGEMENT IN SCHOOLS

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SCIENCE LABORATORY SAFETY

Laboratory experiments are an exciting part of teaching science and an important tool for engaging students. And yet, these activities also come with a great deal of responsibility. Chemicals, when not properly handled, can be hazardous for both staff and students.

Puget Sound Workers' Compensation Trust has developed a tool to assist districts and schools with the management of hazardous chemicals. Here, we outline the steps needed to ensure your staff and students stay safe while in the lab.

Remember the key to any safety program is training! For each step listed, it is imperative to include the appropriate training.

For more information, contact:
Elizabeth Jakab | ejakab@psesd.org
425.917.7640

1 PLANNING & OVERSIGHT

Proper oversight and proactive planning are essential to safe curriculum design. Teachers should work under the supervision of their administration to plan experiments that both support scientific concepts in the curriculum and pose the lowest potential hazard to staff and students, in terms of both the methodology of the experiment and the chemicals used.

2 PURCHASE

When purchasing chemicals, choose those with the lowest hazard and order no more than a two years' supply. Before placing an order, identify the necessary storage features required and make sure your school can accommodate them. Make it a practice to exhaust your existing supply before purchasing additional chemicals.

3 STORAGE

Chemicals should always be kept in their designated storage space, and should always be properly reshelved immediately after use. This storage space must be equipped with any necessary or required safety features. Keep chemical storage organized and separate chemicals by hazard categories. Perform periodic audits and remove old, damaged, and unnecessary items.

4 USE

Proper use and handling of chemicals starts with preparation. Read and understand all safety documentation and practice experiments before introducing them to a class. Identify potential hazards and ways to protect staff and students. Provide any necessary safety equipment and train staff and students in proper techniques and lab safety.

5 WASTE

Reduce waste generation through proper planning – reduce, reuse, recycle. Choose experiments that produce little waste, such as in small-scale chemistry. When disposing of hazardous waste, do so properly, through a reliable, licensed vendor. Remember to budget for the costs associated with chemical waste disposal, which can be higher than the price of the chemicals themselves.

6 EVALUATE

Evaluate your science curriculum, chemical inventory, and chemical storage regularly, and involve all stakeholders in this process. Encourage stakeholders to recommend and implement improvements. Investigate all accidents and incidents and analyze their "root cause" in order to identify methods to prevent accidents from reoccurring.

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Chemical Hazard Communication and Laboratory Hygiene Programs for School Districts

Chemical Hazard Communication Programs and Laboratory Chemical Hygiene Plans (CHP) are an important component of school chemical safety. While generating and maintaining these plans can be an onerous process, it is important to focus on ***why*** we need them. There are two major reasons, both of them equally important:

- They are **mandated** by both Federal and Washington State law.
- Most chemicals and chemical mixtures are **hazardous**; some are highly hazardous, and may cause accidents or harmful exposures.

NOTE: Don't be misled by advertisements and sales pitches. The reality is that even household chemicals purchased at the grocery store present some significant problems if used too much, incorrectly, or without proper protection.

Where are the hazardous chemicals in the schools? ***Everywhere!***

- Science laboratories;
- Technical education shops (i.e. car repair, woodworking);
- Art activities (i.e. photography, printing, painting, pottery);
- District maintenance shops and building maintenance;
- Custodial cleaners (i.e. disinfectants, graffiti removers, etc.);
- Kitchens;
- Transportation shops;
- Preschool areas (bleach!); and
- Health rooms.

From the dozens or sometimes hundreds of chemicals used in school districts, very few are truly non-hazardous. Many of them are flammable, toxic, corrosive, or at least irritating.

A few common examples of hazardous chemicals used in schools:

<u>Science Laboratories</u>

- **Sodium** – explosive reaction with water and potential of turning into an explosive when old; corrosive, can burn skin and eyes causing permanent damage.
- **Methanol** – highly flammable, may cause flash fires, deadly toxin by ingestion and one of the most common chemicals used in labs and most common cause of accidents.

- **Mercury** – highly toxic, may cause serious mental effects; difficult to contain, detect, and clean up; banned by Washington state law.

Custodial Chemicals

- **Graffiti Removers** – some contain toxic, carcinogenic, and persistent chlorinated solvents, most of them contain toxic and flammable hydrocarbon mixtures.
- **Toilet Cleaners** – usually highly acidic or caustic, may cause burns to skin and eyes.
- **Sprays** – produce fine mist in the air and increase inhalation of the chemicals.
- **Disinfectants** – if used incorrectly they don't really kill the germs, just expose everyone to harmful ingredients (i.e. alcohols, hydrocarbons, small amounts of pesticides).

Art Classes

- **Materials** – toxic and flammable solvents and paints.
- **Pottery –** potentially carcinogenic silicon containing dust, toxic and/or carcinogenic heavy metal containing glazes.

Chemical exposure is often compounded by inappropriate ventilation and poor housekeeping in the areas where chemicals are used. Contaminated air can also be redistributed by the ventilation system, so chemical vapors and fumes reach other areas of the building, potentially exposing unsuspecting employees and degrading the indoor air quality.

The above examples clearly demonstrate the need to regulate chemicals in the workplace. Some of the regulations listed below have been in place for decades, some have been recently updated, but all **are mandatory for schools** just as well as for businesses:

Regulations Governing Chemical Hazard Communication:

- Federal: OSHA 29 CFR 1910.1200
- WA State: WAC 296-800-170 Employer Chemical Hazard Communication

Regulations Governing Laboratory Hygiene:

- Federal: OSHA 29 CFR 1910.1450
- WA State: WAC 296-828 Hazardous Chemicals in Laboratories

All of these programs require **TRAINING**. Employers **MUST** inform employees about the chemicals and hazards they might be exposed to while performing their jobs, explain how to best protect themselves, choose and provide appropriate personal protective equipment (PPE), and supervise to make sure the rules and safety guidelines are followed.

Both regulations require training before an employee starts the job and yearly refreshers. It does not matter if the district hires experienced personnel who have been trained before - it is still the responsibility of the current employer to provide the appropriate training.

Above and beyond the minimum mandated programs, it is a good idea for districts to centralize chemical purchasing and designate qualified personnel to conscientiously choose and order the least hazardous alternatives, in the minimum amounts needed, as well as restrict employees from bringing in and/or ordering their "favorites."

So what happens if your district does not have these programs and trainings in place? Usually nothing until an accident occurs or State of Washington Department of Labor and Industries visits, but then the consequences can set in with a vengeance.

We also see an increasing trend of low frequency but high severity laboratory accidents, and custodians and science teachers claiming that their health problems were caused by long term low level exposure to chemicals. Also, consider the liability of a district when a student gets hurt or misuses chemicals.

The Puget Sound Workers' Compensation Trust's Industrial Hygiene Consultant can assist districts in setting up or updating their programs and provides both Hazard Communication and Laboratory Hygiene training. She can also assist with laboratory cleanouts, building walk-throughs, and selection of less hazardous alternatives. Please call Elizabeth Jakab at 425-917-7640 or email to ejakab@psesd.org for assistance.

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Standard Operating Procedures (SOP) for Chemistry Laboratories

(can also be used as a base for student "safety contracts")

General Procedures

- Minimize all chemical exposures;
- Assume that all chemicals are hazardous;
- Don't underestimate the risks; KNOW the risk;
- Assume that a mixture is more hazardous (toxic, flammable, reactive) than its components;
- Assume that chemicals of unknown toxicity are toxic;
- Always avoid skin contact with chemicals;
- Always reduce airborne exposure with appropriate ventilation or fume hood;
- Never smell directly or taste any chemicals
- No eating, drinking, gum chewing or makeup application permitted in labs;
- Don't mix chemicals with food items in storage, microwave, or fridge;
- All chemical containers need to be properly labeled and capped, closed at all times;
- Never permit horseplay or inattention in the laboratory;

Storage:

- Storage and prep room needs to be locked at all times when teacher is not present;
- Nobody has access to chemicals without appropriate training, protection, and another person present;
- Students have access to chemicals only when teacher is present;
- All unlabeled materials are considered highly hazardous and need to be properly disposed of as hazardous waste;
- Flammables stored in appropriate flammable cabinet at all times;
- Corrosives stored in appropriate cabinets; acids separated from caustics; organic acids separated from inorganic acids; nitric acid (strong oxidizer) separated from everything else (plastic cage-like insert);
- Pipette bottles with rubber top are appropriate only for short-term storage (until unit is over);

Preparation

- Know the hazards of the chemicals and of that particular experiment;
- Try out experiments several times before introducing them to the classroom;
- Always have a knowledgeable partner present when you try out new experiments (even after hours!);
- Be aware of the limitations of your facilities (i.e.. no eyewash = no caustics);
- Have proper personal protective equipment (PPE) ready;

- No respirators in school labs – should not have that high respiratory hazard present;
- Goggles need to be sterilized between uses;
- Use the minimum amount of chemical needed for the success of the experiment at the lowest possible concentration;
- Replace highly hazardous chemicals/experiments with less hazardous alternatives;
- Use technology to replace hazardous experiments and broadcast demonstrations;

Clothing ***(teacher should demand and enforce appropriate clothing during lab experiments):***

- Clothing covers body: no shorts, preferably long sleeves, no naked stomach, spaghetti straps, etc;
- Natural fiber clothing preferred: cotton, linen, leather, or canvas;
- No high heels, open toes, flip-flops;
- No nylons;
- No hanging jewelry, rings preferably removed during lab experiments;
- Long hair needs to be tied back;
- Contact lenses are prohibited in working laboratories – chemicals trapped by the lens may cause serious eye injury;

Use of space:

- Chemicals are stored in a permanent, well-ventilated storage area, separating hazard categories from each other;
- Do not store chemicals on floors, on countertops, in sinks or fume hoods;
- When no longer used, chemicals are immediately put back in the storage area;
- Aisles and exits need to be kept clear at all times (watch for carts)
- Prevent clutter and don't mix chemicals with books, notebooks, paper (fire hazard);
- Do not store clothing, books, or bags near chemicals and don't let backpacks block exits or aisles;
- Experiments are performed standing up;
- Amphitheater setting presents a special problem for splashing chemicals;
- Have separate, designated, and labeled sharps and hazardous waste storage areas;

End of experiment:

- Chemicals are put away immediately into proper storage areas (i.e. flammables in flammable storage cabinet);
- All containers are properly closed/capped;
- Area is cleaned up;
- PPE is cleaned, goggles sanitized, and everything goes back to the designated storage;
- Hazardous waste and sharps are collected in separated, designated containers;
- Wash hands with soap and lukewarm water;
- Ensure that gas, water, and electricity are turned off and rooms are locked;

Incidents, accidents:

- Always be prepared for worst case scenario;
- Know the use and exact location of safety equipment and alarms;
- Have spill equipment and trained personnel ready;
- Have a phone with direct line to the outside and permission to call 911 if needed;
- All accidents, incidents, cuts, scrapes, etc., need to be reported and discussed; it's an excellent learning tool;
- File timely, written reports of hazardous conditions and defective equipment;
- If needed, evacuate area;
- Spills need to be immediately cleaned up or 911 called – custodians should not clean up chemical spills;
- Watch for wet, slippery floors, especially when carrying chemicals;

During experiments:

- Hot glass looks exactly like cold glass! Use heat protection.
- Watch for potentially asbestos containing heat gloves;
- Never use broken, chipped, or cracked glassware;
- Use lubrication on cut glass surfaces;
- Always use pipettes with a bulb; do not allow liquid in the bulb;
- Make sure the size of equipment and glassware is appropriate, matching and fitting properly;
- Do not force glassware, joints or bulbs; use lubrication when needed;
- Make sure that a built unit (i.e. distillation) is solid, fixed to something sturdy and won't tip over;
- Direct the opening of test tubes away from your face and the students' face. Gently shake tube when heating liquid;
- Test tubes need to be stored in appropriate holders, not laid on the bench (rolling off, spilling materials); dispose of soaked, chemical covered old wooden test tube holders; clean and maintain test tube holders;

Periodic checks:

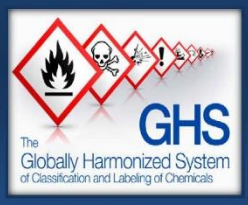
- Eye wash (weekly; use log sheet);
- Safety shower (monthly; use log sheet);
- Fume hoods (certify, then check the air flow quarterly)
- Storage, preparation area (have a regular inspection schedule, use an inspection list, date and sign list).

For support with your laboratory safety and training please contact the WCT Industrial Hygiene Consultant at ejakab@psesd or 425-917-7640

Last update: January 2016

NEW GHS STANDARD

SDS's, Pictograms, and Labeling



GHS Safety Data Sheet Sections:

Section 1: Identification
Product identifier, recommended use, restrictions of use and contact information of the manufacturer.

Section 2: Hazard Identification
Pictograms, hazard statements, signal words, and precautionary statements.

Section 3: Composition
Ingredients, chemical name, common name, and Chemical Abstract System (CAS) number.

Section 4: First Aid Measures
Description of necessary measures specific to the method of exposure.

Section 5: Firefighting Measures
Suitable extinguishing media specific to hazards arising from the chemicals.

Section 6: Accidental Release Measures
Personal precautions to take, Personal Protective Equipment (PPE), containment and cleanup procedures.

Section 7: Handling and Storage
Precautions for safe handling.

Section 8: Exposure Controls
Permissible exposure limits (PEL) and appropriate engineering controls.

Section 9: Physical and Chemical Properties
Includes but is not limited to appearance, odor, melting point, pH and flash point.

Section 10: Stability and Reactivity
Reactivity, chemical stability and conditions to avoid.

Section 11: Toxicological Information
Health effects, information on routes of exposure, symptoms related to chemical, physical and toxicological characteristics.

Section 12: Ecological Information*
Degradability and bio-accumulative potential.

Section 13: Disposal Considerations*
Safe handling of waste residue.

Section 14: Transport Information*
Provides guidance on shipping and transporting hazardous materials.

Section 15: Regulatory Information*
Safety, health and environmental regulations.

Section 16: Other information
Date of preparation and date of last revision

**Not regulated by OSHA*

HCS Pictograms and Hazards

Health Hazard	Flame	Exclamation Mark
• Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity	• Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides	• Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder	**Corrosion**	**Exploding Bomb**
• Gases Under Pressure	• Skin Corrosion/ Burns • Eye Damage • Corrosive to Metals	• Explosives • Self-Reactives • Organic Peroxides
Flame Over Circle	**Environment** (Non-Mandatory)	**Skull and Crossbones**
• Oxidizers	• Aquatic Toxicity	• Acute Toxicity (fatal or toxic)

EPICHLOROHYDRIN (1)

UN No. 2023
CAS No. 106-89-8

(2) **DANGER**

(4) Flammable liquid and vapor. Toxic if swallowed. Toxic in contact with skin. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause cancer.

(5) Do not breathe dust/fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing/eye protection.

(3)

Fill Weight: 18.52 lbs.
Gross Weight: 20 lbs
Expiration Date: 1/15/2018

Lot Number: A0323111323
Fill Date: 1/15/2012

(6) JACKSON CHEMICAL COMPANY - City of Industry, Los Angeles, California, USA (800)-444-456-8989

1. **Chemical Identification**
2. **Signal Word**
3. **Pictogram(s)**
4. **Hazard Statement**
5. **Precautionary Statement**
6. **Supplier Information**

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For More Information: Contact your supervisor or PSWCT's Industrial Hygiene Consultant, Elizabeth Jakab, at (425) 917-7640 or (206) 200-4463 | www.pswct.org

Storage Pattern for Chemicals Where Space is Limited

A proper chemical storage system separates materials according to chemical compatibility and hazard class. Many schools try to use the excellent chemical storage system found in Flinn Scientific's catalog. Unfortunately, many school stockrooms are too small to provide 23 separated locations for classes of chemicals.

Here are some tips for creating safer chemical storage rooms:

- Complete an inventory of the chemical compounds in each stockroom.
- Do not store chemical containers above eye level if possible.
- Separate inorganic compounds from organic compounds.
- Store solids above and liquids below.
- Storage cabinets for acids, bases and flammables are meant for liquids, not dry solids.
- Vent acid cabinets to prevent vapor build-up.
- Store concentrated sulfuric acid on one shelf of the acid cabinet and concentrated hydrochloric acid on another.
- Store nitric acid in a secondary container with other inorganic acids or a separate cabinet.
- Do not vent flammable liquid storage cabinets unless you're using an explosion-proof fan is carrying the vapors out of the building.
- Glacial acetic acid is a flammable liquid; store it in a dedicated organic acid cabinet or in the flammable liquids cabinet.
- Flammable liquids like alcohols must not be stored in conventional refrigerators.

The chart below combines categories of chemicals that have similar hazardous characteristics. By doing so, you will only need 12 separate storage locations.

Inorganic Reactives & Metals (I-1, I-10) Sulfur, Phosphorus (double packaged), Arsenic, Solid Metals, Hydrides, Lithium, Sodium	**Organic Toxins (O-5, O-7)** Epoxy Compounds, Isocyanates, Sulfides, Polysulfides
Inorganic Salts (I-2) Chlorides, Iodides, Fluorides, Bromides, Sulfates, Sulfites Thiosulfates, Phosphates.	**Organic Reactives #6** Peroxides, Azides, Hydroperoxides
Inorganic Oxidizers (I-3, I-6, I-8) Nitrates, Nitrites, Borates, Chromates, Manganates, Permanganates, Chlorates, Chlorites, Peroxides, Azides,	**Flammable Storage Cabinet (O-2, O-3, O-4, O-8 & concentrated organic bases)** Alcohols, Glycols, Phenol, Hydrocarbons, Cresols, Esters, Ethers, Propionic Acid, Formic Acid, Glacial Acetic Acid, Lactic Acid
Inorganic Corrosive Bases (O-4) (Dry Chemicals) Dry Hydroxides, Oxides, Silicates, Carbonates, Carbon	**Dry and Dilute Organic Acids & Anhydrides (O-1)** Citric Acid, Anhydrides, Peracids, etc.
Inorganic #5 and #7 Toxins Arsenates, Cyanides, Sulfides, Selenides, Phosphides, Carbides, Nitrides	**Miscellaneous** Household chemicals (vinegar, baking soda, vegetable oils), Dyes, Stains, Agars, Sugars, Gels
Corrosive Base Storage Cabinet (I-4 Liquids) >1.0 molar Ammonium Hydroxide, Sodium Hyroxide, Calcium Hydroxide (limewater), Potassium Hydroxide, Oxides, Silicates	**Non-metal Corrosive Acid Storage Cabinet (I-9 Liquids)** Hydrochloric Acid, Sulfuric Acid, Hydrobromic Acid, Phosphoric Acid, Perchlorid Acid. Nitric acid separately stored in this or another cabinet. Limit Nitric Acid to a 5 year supply.
Dilute solutions at or below 1.0 molar can be stored on shelves rather than in cabinets. Segregate inorganic and organic compounds. Check containers annually for condition of containers, labels and contents. Replace degraded lids, dropper tops and solutions.	*To prevent release of corrosive vapors, avoid storing pipettes holding acids or bases in test tubes taped to the side of bottles. Wrap fritted glass stoppers on acid bottles in parafilm to reduce evaporation. Store Iodine crystals in a sealed plastic bag to monitor degradation of the container's cap and reduce indoor air pollution.*

Chemical Incompatibility Matrices and Tables

Chemical incompatibility data are presented in Tables 1 and 2 below. These are recommended guidelines that may be used in combination with container labels, MSDSs , user knowledge for storing and segregating chemicals. An EH&S Industrial Hygienist may also be consulted.

Table 1: Incompatibilities by Hazard Class

	Acids, inorganic	Acids, oxidizing	Acids, organic	Alkalis (bases)	Oxidizers	Poisons, inorganic	Poisons, organic	Water-reactives	Organic solvents
Acids, inorganic			X	X		X	X	X	X
Acids, oxidizing			X	X		X	X	X	X
Acids, organic	X	X		X	X	X	X	X	
Alkalis (bases)	X	X	X				X	X	X
Oxidizers			X				X	X	X
Poisons, inorganic	X	X	X				X	X	X
Poisons, organic	X	X	X	X	X	X			
Water-reactives	X	X	X	X	X	X			
Organic solvents	X	X		X	X	X			

Table 2: Chemical Incompatibility Table

CHEMICAL	KEEP OUT OF CONTACT WITH
Acetic acid	Chromic acid, nitric acid, perchloric acid, peroxides, permanganates and other oxidizers
Acetone	Concentrated nitric and sulfuric acid mixtures, and strong bases
Acetylene	Chlorine, bromine, copper, fluorine, silver, mercury
Alkali metals	Water, carbon tetrachloride or other chlorinated hydrocarbons, carbon dioxide, halogens
Ammonia, anhydrous	Mercury, chlorine, calcium hypochlorite, iodine, bromine, hydrofluoric acid
Ammonium nitrate	Acids, metal powders, flammable liquids, chlorates, nitrites, sulfur, finely divided organic or combustible materials
Aniline	Nitric acid, hydrogen peroxide
Arsenic materials	Any reducing agent
Azides	Acids
Bromine	Same as chlorine
Calcium oxide	Water
Carbon (activated)	Calcium hypochlorite, all oxidizing agents
Carbon tetrachloride	Sodium
Chlorates	Ammonium salts, acids, metal powders, sulfur, finely divided organic or combustible materials
Chromic acid and chromium trioxide	Acetic acid, naphthalene, camphor, glycerol, glycerin, turpentine, alcohol, flammable liquids in general
Chlorine	Ammonia, acetylene, butadiene, butane, methane, propane (or other petroleum gases), hydrogen, sodium carbide, turpentine, benzene, finely divided metals
Chlorine dioxide	Ammonia, methane, phosphine, hydrogen sulfide
Copper	Acetylene, hydrogen peroxide
Cumene hydroperoxide	Acids, organic or inorganic
Cyanides	Acids
Flammable liquids	Ammonium nitrate, chromic acid, hydrogen peroxide, nitric acid,

	sodium peroxide, halogens
Hydrocarbons	Fluorine, chlorine, bromine, chromic acid, sodium peroxide
Hydrocyanic acid	Acids
Hydrofluoric acid	Ammonia, aqueous or anhydrous, bases and silica
Hydrogen peroxide	Copper, chromium, iron, most metals or their salts, alcohols, acetone, organic materials, aniline, nitromethane, flammable liquids
Hydrogen sulfide	Fuming nitric acid, other acids, oxidizing gases, acetylene, ammonia (aqueous or anhydrous), hydrogen
Hypochlorites	Acids, activated carbon
Iodine	Acetylene, ammonia (aqueous or anhydrous), hydrogen
Mercury	Acetylene, fulminic acid, ammonia
Nitrates	Sulfuric acid
Nitric acid (concentrated)	Acetic acid, aniline, chromic acid, hydrocyanic acid, hydrogen sulfide, flammable liquids, flammable gases, copper, brass, any heavy metals
Nitrites	Acids
Nitroparaffins	Inorganic bases, amines
Oxalic acid	Silver, mercury
Oxygen	Oils, grease, hydrogen; flammable liquids, solids, or gases
Perchloric acid	Acetic anhydride, bismuth and its alloys, alcohol, paper, wood, grease, and oils
Peroxides, organic	Acids (organic or mineral), avoid friction, store cold
Phosphorus (white)	Air, oxygen, alkalis, reducing agents
Potassium	Carbon tetrachloride, carbon dioxide, water
Potassium chlorate and perchlorate	Sulfuric and other acids, alkali metals, magnesium and calcium.
Potassium permanganate	Glycerin, ethylene glycol, benzaldehyde, sulfuric acid
Selenides	Reducing agents
Silver	Acetylene, oxalic acid, tartaric acid, ammonium compounds, fulminic acid
Sodium	Carbon tetrachloride, carbon dioxide, water

Sodium nitrite	Ammonium nitrate and other ammonium salts
Sodium peroxide	Ethyl or methyl alcohol, glacial acetic acid, acetic anhydride, benzaldehyde, carbon disulfide, glycerin, ethylene glycol, ethyl acetate, methyl acetate, furfural
Sulfides	Acids
Sulfuric Acid	Potassium chlorate, potassium perchlorate, potassium permanganate (or compounds with similar light metals, such as sodium, lithium, etc.)
Tellurides	Reducing agents

(From Manufacturing Chemists' Association, *Guide for Safety in the Chemical Laboratory,* **pp. 215–217, Van Nostrand)**

Segregate acids in storage cabinets

	Acid Storage Cabinet	Non-metallic Vented
Top shelf	Hydrochloric acid	Phosphoric acid Hydrobromic acid
Bottom Shelf	Sulfuric acid	Nitric acid (in containment)

Proper Disposal of School Chemicals

Proper Disposal of School Chemicals

Several options are available for schools when deciding how to dispose of unneeded or unusable chemical wastes. These disposal methods are dependent on the type of chemical and it's hazardous characteristics.

For no-longer-useful pure chemical compounds in the science laboratories, search for the chemical's name in the school chemicals database and, once the search is complete, click on the chemical's name for in-depth information on its hazards and proper disposal method.

For the three most commonly generated waste mixtures from school science labs - heavy metals solutions, corrosive liquid wastes, and organic solvent wastes:

- **Heavy Metals Solutions**: Collect waste liquids containing heavy metals in a single large wide-mouthed container lined with a sliding lock plastic bag. Leave the bag open so most of the water can be evaporated in a fume hood. When the bag is full of settled solids, zip it closed and place it in a five-gallon bucket labeled "Hazardous Waste – Heavy Metals" and snap the lid closed. When this five-gallon bucket is full of bags of sludge, dispose of it as hazardous waste. Keep a log sheet listing the name and amount of the waste solutions that are placed in the bags and the date they were added. An inventory of what the waste is made of can save you the expense of testing for identification by the hazardous waste disposal vendor or site when it is disposed. Contact the Business Waste Line at 206-263-8899 for guidance on your disposal options.

- **Organic Solvents**: Collect waste solvents in a glass or metal container with a tight-sealing lid. Label this container with the words Hazardous Waste. Keep a log of the amount and type of organic compounds added to the container on a log sheet with the date they were added. If you have chlorinated solvent waste, store it in a separate container labeled "Chlorinated Solvents" to reduce costs. When the containers are full, contact the Business Waste Line at 206-263-8899 for guidance on best disposal options. Waste solutions containing over 24 percent alcohol are ignitable hazardous waste and cannot be disposed down the drain nor evaporated in the fume hood.

- **Corrosive Liquids**: Concentrated acids and bases must be disposed as hazardous waste. Contact the Business Waste Line at 206-263-8899 for guidance on your disposal options. Dilute inorganic acid and base solutions (1.0 molar or less) can be neutralized to a pH between 6.0 and 11.0 and discharged to the sanitary sewer, provided they've not been contaminated with heavy metals. Keep a log sheet that tracks the amount of acidic or basic waste generated and the date it was neutralized on a log sheet. When the pH is correct, the solution can be drained to the sanitary sewer with a water rinse of 50 times the acid or base's volume.

Schools with 220 pounds of chemical waste (art, science or maintenance) or less per month may qualify for no-charge hazardous waste disposal.

For schools with more hazardous waste requiring disposal, the No-Charge Business Hazardous Waste Disposal can help reduce the cost of disposal and assist with purchasing needed hazardous material management supplies.

Science Laboratory and Storage Room Inspection Checklist

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

School District:_____ **Date:** _____

School:_____ **Chemical Hygiene Officer:**_____

Room:_____ **Person performing inspection:**_____

Please remember that all persons working with hazardous chemicals or even potentially exposed to hazardous chemicals need to be trained in chemical safety and hazard communication BEFORE starting the job.

K. SCIENCE CLASSROOMS & LABORATORIES		**Recommended**	**Required**	**Reference**	**Inspection Checklist:** Check if compliant. Report problems to administration.
K 001	Science laboratories shall have an inventory list of all chemicals. This list must be updated periodically. (Recommendation is annually or more frequently.)		X	296-800-17005 296-800-17010 RCW 28A.320.125(3)(b) Prudent Practices 2.D.4	
K 002	Science laboratories shall have a written Chemical Hygiene Plan that is available to all students and staff members. It shall be reviewed annually and updated when necessary. (New science teachers shall review the CHP as part of their Employee Safety Orientation.)		X	296-828-20005 Prudent Practices 2.B	
K 003	Emergency eyewash and shower stations shall be provided when there is a potential for exposure to corrosives, strong irritants or toxic chemicals. They shall be located within 50 feet or ten seconds walking distance from all lab science work stations.		X	246-366-140(2) 296-800-15030 ANSI Z 358.1 Prudent Practices 7.F.2.5	
K 004	Emergency showers shall deliver water to cascade over the user's entire body at a minimum rate of 20 gallons (75 liters) per minute for 15 minutes or more.		X	296-800-15030 ANSI Z 358.1 Prudent Practices 7.F.2.5.1	
K 005	Eye-wash stations and emergency showers shall be handicap accessible and operable "hands-free" so that the user can hold both eyes open. Hand-held showers and eye-wash equipment do not meet current L & I WISHA rules (except as auxiliary or extra protection).		X	296-800-15030 ANSI Z 358.1 Prudent Practices 7.F.2.5 ADA	
K 006	Eye wash stations shall provide 0.4 gallons (1.5 liters) per minute for 15 minutes or more. In some areas with high water pressure, flow regulators may be required on the eye wash stations.		X	296-800-15030 ANSI Z 358.1 Prudent Practices 7.F.2.5 ADA	
K 007	Emergency showers and eye wash units shall be inspected and tested for proper operation annually. Plumbed emergency eye washes must be activated weekly. Written documentation of tests shall be maintained on site.		X	296-800-15035 Prudent Practices 7.F.2.5	

K. SCIENCE CLASSROOMS & LABORATORIES		Recom-mended	Required	Reference	Inspection Checklist: Check if compliant. Report problems to administration.
K 008	In chemical laboratories, chemical storage rooms, and photography darkrooms, an increased rate of ventilation shall be provided as required by Codes; i.e., 20 cfm per occupant.		X	296-62-136 51-52/IMC 401, 403 296-841 Airborne Contaminants Prudent Practices 9.C	
K 009	A building commissioning report which documents outside air volumes meeting 15-20 cubic feet per minute (cfm) per occupant is required on state match projects and recommended for all projects. (See Indoor Air Quality Section).		X	51-52/IMC 401, 403 RCW 39.35D.060 Prudent Practices 9.C	
K 010	There shall be an on-demand, mechanical ventilation system providing additional air exchange as required by codes for chemical areas such as photo darkrooms, storerooms and chemistry labs. (This is in addition to the building HVAC system). (See Indoor Air Quality Section).		X	51-52/IMC 401, 403 296-841-20010 296-828-20005 Prudent Practices 9.C NFPA 45 Chapter 8	
K 011	All hazardous chemical fumes and vapors shall vent directly to the outside without re-entrainment into the building or the building HVAC system. (See Indoor Air Quality Section).		X	296-62-13620 296-841-20010 (2) 51-52/IMC 501, 502 Prudent Practices 9.C NFPA 45 Chapter 8	
K 012	Make-up air shall be of ample quantity to replace the exhausted air and shall be tempered when necessary. (See Indoor Air Quality Section).		X	296-62--13625 51-52/IMC 501, 502 Prudent Practices 9.C NFPA 45 Chapter 8	
K 013	Only UL approved heating devices shall be used in laboratories.		X	IFC 605	
K 014	Electrical receptacles shall be properly grounded. Ground fault interrupter (GFI) devices shall be provided on all electrical receptacles within six (6) feet of sinks and other grounding sources.		X	296-24-95607 NFPA 70/NEC 210-8(b) NFPA 45-5.6 Prudent Practices 7.C.1.1	
K 015	All electrical equipment shall be properly grounded. Portable electrical equipment shall be double-insulated or provided with a UL-listed ground prong.		X	296-800-28040 296-24-95607 296-24-95609 NEC Prudent Practices 7.C.1.1	
K 016	Electrical extension cords shall be UL-listed, and the wire size shall be appropriate for the applied use.		X	296-800- 28040 296-24-95607,95609 IFC 605 NEC Prudent Practices 7.C.1.2	
K 017	There shall be at least one fume hood for each laboratory where hazardous chemicals are used. A demonstration hood is also recommended with clear sides so students can view demonstrations from three sides.		X	296-828-20005 Prudent Practices 9.C.2 29 CFR 1910.1450 App A	
K 018	Fume hoods in school buildings shall comply with AHERA asbestos regulations.		X	AHERA	

K. SCIENCE CLASSROOMS & LABORATORIES		Recommended	Required	Reference	Inspection Checklist: Check if compliant. Report problems to administration.
K 019	Chemicals should not be stored in fume hoods.	X		296-828-20005 Prudent Practices 9.C.2 29 CFR 1910.1450 App A(D)	
K 020	All fume hoods shall exhaust directly to the outside, away from all occupied areas and air intakes in order to prevent exhaust from reentering the building.		X	296-62-13620 296-814-20010(2) 51-52/IMC 501, 502 Prudent Practices 9.C.2	
K 021	Fume hood air velocity should be 60-125 linear feet per minute (lfm) checked quarterly with a velocity meter. Written documentation of all tests should be maintained on site. The exhaust capture path should direct contaminants away from the user. With the sash raised to 12 inches, the air flow should measure at least 60 lfm.	X		296-828-20005 ASHRAE 10-1995 ANSI Z 9.5 296-62-40025 (3) (c) (iv) (G)(H) 29 CFR 1910.1450 App A(C)(4) Prudent Practices 9.C.2	
K 022	Fume hood shall be used when using known or suspected carcinogens, mutagens, teratogens, chemicals which are fast acting/highly toxic, listed as toxic via skin absorption or inhalation, or chemicals with a TLV or PEL of 50 ppm or less. This determination shall be based on information provided by material safety data sheets.		X	296-841-20010 Prudent Practices 9.C.1	
K 023	All electrical devices used in the fume hood such as switches, lights, motors, etc., shall be explosion-proof.		X	296-24-95613 NEC Prudent Practices 7.C.1.2	
K 024	The chemical hygiene officer (e.g., science department chairperson or science teacher) shall develop and carry out a written chemical hygiene plan (CHP). It should include an operation and maintenance program for laboratory fume hoods and other mechanical equipment in science laboratories.		X	296-828-20005 Prudent Practices 9.C.2	
K 025	Master gas shut-offs shall be provided, the location clearly visible, accessible, and indicated by means of a sign. Master electricity and water shut-offs are recommended. Directional signs should be provided to r safety items in all laboratory areas.		X	51-56/UPC 12.1151-54/IFC 2703.2.2.1, 3503.1.3 (compressed gas), 4003.1.2 (compressed gas systems carrying oxidizer gases) 296-806-20008, 20012	
K 026	Invisible hazards (radiation, chemical, electrical, laser, and heat) should be posted with warning signs or symbols when present.	X		ANSI C95.2 OSHA Tech Manual Sec. III: Chap 6 (VI)(E)(1) Prudent Practices 7.C.8.1	
K 027	Food items (for human consumption) shall not be permitted in chemical laboratories or storerooms (including lab refrigerators). No eating, drinking or gum chewing shall be allowed in labs to prevent poisoning through ingestion. All food items to be used for experiments shall be labeled "Not for human consumption."		X	29 CFR 1910.141 (g) (2) & (4) Prudent Practices 6.C.2.3	

K. SCIENCE CLASSROOMS & LABORATORIES		Recom-mended	Required	Reference	Inspection Checklist: Check if compliant. Report problems to administration.
K 028	Chemical storerooms shall be lockable and inaccessible to unsupervised students, and have self-closing doors. Doors shall have a one-hour fire rating .		X	51-54/IFC 2703.8.3.2 51-50/IBC 414.2.4 Prudent Practices 10.B Prudent Practices 2.D.2	
K 029	Chemical storage areas should be clean, well organized and have sufficient space to allow segregation of incompatible chemicals and easy access to storage shelves and exit doors.	X		IFC 2703.9.8 Prudent Practices 2.D.2	
K 030	Chemical storerooms should have sturdy, well-supported shelves secured to the walls. All shelves should have "earthquake" (or "spill-prevention") lips on all shelf edges. Doors that close on cabinets do not replace the need for spill-containment "lips" on the front edge of shelves.	X		Prudent Practices 2.D.2	
K 031	Chemical storerooms should have all hazardous chemicals stored at or below eye level (typically below 5' 6") with heavy objects stored on lower shelves. Higher shelves may be used for other items; e.g., glassware, equipment, paper goods, etc.	X		Prudent Practices 2.D.2	
K 032	Chemical storage areas should be kept cool (between 55 and 80 degrees F) and dry (relative humidity between 30 and 60%).	X		Prudent Practices 2.D.2	
K 033	Chemicals should be stored according to their properties, in compatible storage groups, not alphabetically.	X		Prudent Practices 5.E.2	
K 034	Chemicals shall be organized and stored to separate incompatible groups. Labels shall clearly denote the identity of the container's chemical contents, warnings about its health and physical hazards, and the date received.		X	296-800-17025 Prudent Practices 5.E.2, Prudent Practices – Table 5.1	
K 035	Chemicals marked only with teacher codes (e.g., A, B, C,…), for student testing/analysis, shall not be allowed in permanent storage. All containers shall be stored in a way that allows identification of their contents.		X	296-800-17025 Prudent Practices 5.E.2	
K 036	All flammables shall be stored in approved flammable storage cabinets with self-closing doors. Flammables (red labels) and acids and bases (white labels), shall be stored separately.		X	296-24-33009 Prudent Practices 5.E.5	
K 037	Elemental mercury, mercury thermometers, mercury compounds and other mercury-containing devices shall not be in Washington State schools.		X	246-366-140 RCW 70.95M	

K. SCIENCE CLASSROOMS & LABORATORIES		Recom-mended	Required	Reference	Inspection Checklist: Check if compliant. Report problems to administration.
K 038	Schools should only store and use chemicals appropriate for their level of science instruction. The chemicals in Appendix D, Table 1 are considered inappropriate in K-12 education. The chemicals in Table 2 have been determined by DOH and OSPI as suitable in small quantity and in advanced classes in senior high laboratories. No more than one pound of each chemical should be stored on site. Alternatively, the King County Local Hazardous Waste Management Program maintains a comprehensive database of school chemicals which includes exposure hazards, environmental toxicity, common experiments, grade suitability, and a grade-based hazard rating. Chemicals in the data base rated as "ban candidates" should not be used in K-12 schools. www.schoolchemlist.org	X		246-366-140	
K 039	Chemicals should be purchased in the smallest commercially available container that will meet the school's needs for approximately five academic years, whichever is greatest. All chemicals should be dated upon receipt into the lab or storage area.	X		246-366-140 Prudent Practices 5.B.1 Prudent Practices 5.B.5 Prudent Practices 5.C.1	
K 040	Chemicals should be dispensed to students in the minimum amount necessary for immediate use.	X		DOH & OSPI	
K 041	There should be a separate storage shelf, cabinet or area for water reactive compounds (e.g., metallic sodium, potassium or calcium) and organic peroxides.	X		Prudent Practices 5.E.7	
K 042	All acids should be stored in approved acid cabinets. Isolate combustible acids like glacial acetic acid from oxidizing acids like nitric and sulfuric acid. Non-metal cabinets are recommended to prevent corrosion of the cabinet.	X		IFC (2009) 2701.3.3.3 Prudent Practices 5.E	
K 043	Only explosion-proof refrigerators shall be used to store volatile chemicals. Non explosion-proof refrigerators or other electrical devices shall not be located in areas with vaporous or flammable chemicals.		X	29 CFR 1910.307 Prudent Practices 7.C.3	
K 044	Instructors shall wear personal protective equipment (PPE) when using corrosive, toxic, reactive, or irritating chemicals and during hazardous activities as required by L & I WISHA rules.		X	296-800-160 296-155 Prudent Practices 7.C.3	
K 045	Eye protection, safety glasses, 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.		X	246-366-140 RCW 70.100 296-800-160 296-155-215 Prudent Practices 6.C.2.2	

K. SCIENCE CLASSROOMS & LABORATORIES		Recom-mended	Required	Reference	Inspection Checklist: Check if compliant. Report problems to administration.
K 046	A non-asbestos fire blanket should be provided, identified, readily available, and visible to students and staff.	X		Prudent Practices 6.C.10.9	
K 047	Safety shields on the demonstration table should be used for demonstrations wherever the possibility of explosion exists.	X		Prudent Practices 7.F.2.2	
K 048	Jewelry should not be worn if personal safety would be jeopardized.	X		DOH & OSPI	
K 049	Loose hair should be restrained so that personal safety is not jeopardized.	X		DOH & OSPI	
K 050	All laboratories shall have a written clean-up plan for spills. All laboratories shall have a spill clean-up kit or materials for absorbing spills identified and readily available to students and staff.		X	296-828-20005 Prudent Practices 2.F.E Prudent Practices 6.C.10.6	
K 051	Waste shall be disposed in accordance with Dept. of Ecology (ECY) regulations. No waste or chemicals shall be poured down the drain or put in the solid waste without approval from local sewer or solid waste authorities.		X	173-303 Prudent Practices 8.B.6.2	
K 052	A written and documented lab safety orientation that includes components of the Chemical Hygiene Plan shall be provided for all staff and students.		X	296-828-2005 Prudent Practices 2.B	
K 053	A telephone for reporting emergencies shall be located in or near the laboratory. Emergency telephone numbers shall be readily accessible. Staff shall be trained in emergency procedures.		X	RCW 28A.335.320 180-41-035(3) Prudent Practices 3.D.2.1	
K 054	Lab floor plans shall be kept in the school office. A listing of exits, chemicals, and storage place of chemicals shall be included for use by emergency responders. Exits shall be clearly marked and free of obstruction.		X	29 CFR 1910.1450 Appendix A (D) (8) Prudent Practices Appendix A - (D) (8)	
K 055	Fire extinguishers shall be provided (ABC type). Fire extinguishers shall be identified and readily accessible to staff and students. The instructor shall be trained in fire extinguisher use. Demonstration or hands-on training shall be provided during safety orientation.		X	296-800-30005, 30010, 30025 Prudent Practices 7.F.2.3.1	
K 056	A fire alarm system shall be provided. Alarm pull stations shall be identified and readily accessible to staff and students.		X	296-800-31070 Prudent Practices 7.F.2	
K 057	Fire retardant lab coats shall be used as required by L & I WISHA PPE rules when appropriate for a specific project or demonstration.		X	CFR 1910.132(d)(1) Prudent Practices 6.C.2.6.2	

K. SCIENCE CLASSROOMS & LABORATORIES		Recom-mended	Required	Reference	Inspection Checklist: Check if compliant. Report problems to administration.
K 058	Formaldehyde should not be in K-12 schools. Laboratories using formaldehyde solutions must comply with the OSHA Occupational Standard for Formaldehyde. Biology specimens stored in formaldehyde should be decanted and held in a formaldehyde-free alternative.-e.g., Flinnsafe, Carosafe, propylene glycol, or alcohol solution. Formaldehyde disposal shall adhere to the ECY Dangerous Waste regulations.	X		296-856 OSPI-DOH 29 CFR 1910.1048 WAC 173-303 Prudent Practices 11.C.1	
K 059	Biology specimens should be stored in sealed containers to prevent evaporation of liquid contents and resulting IAQ issues. Specimens preserved in hazardous or dangerous chemicals, e.g., alcohol, should be stored in locked cabinets. A Flammable cabinet may be required.	X		Prudent Practices 5.E.1	
K 060	Glassware should be free of all cracks, chips, sharp edges and other defects.	X		Prudent Practices 4.E.9	
K 061	Material Safety Data Sheets (MSDS) shall be kept and readily available for all chemicals in the lab.		X	29 CFR 1910.1200(b)(4)(ii) Prudent Practices 4.B.2	
K 062	A first aid kit shall be provided and adequately stocked in the lab area.		X	296-800-15020 Prudent Practices 2.F.2	
K 063	Containers of non-hazardous substances (e.g., distilled water) shall be labeled to avoid confusion. (ALL CONTAINERS MUST BE LABELED REGARDLESS OF THE CONTENTS).		X	296-800-17025	
K 064	Appropriate gloves, matched to the hazard, shall be provided and worn when the potential for hand contact with chemicals exists.		X	296-800-16065 296-62-40025(3)(e)(i)(S)	
K 065	Closed toe shoes shall be worn at all times in the laboratory. (No sandals or perforated shoes.)		X	296-800-16060 296-62-40025(3)(e)(i)(P)	
K 066	A sink with soap and paper towels shall be available in the lab for hand washing.		X	296-800-23025 296-62-40025(3)(e)(i)(M)	
K 067	Electrical Panel circuit breaker switches for the Lab shall be accessible and the breakers labeled. 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.		X	296-800-28022 296-800-28025 51-54/IFC 605.3, 8509 NFPA 70/NEC 110.26	
K 068	A mercury barometer is allowed, but not recommended. Mercury shall be disposed of in compliance with EPA and ECY regulations. Mercury-free barometers are available, e.g.: the "Eco-Celli" barometer. http://www.weatherequipment.com/Eco-celli-Barometer_p_156.html	X		RCW 70.95M 173-303	

K. SCIENCE CLASSROOMS & LABORATORIES		Recom-mended	Required	Reference	Inspection Checklist: Check if compliant. Report problems to administration.
K 069	Ethidium Bromide, is hazardous via skin contact or ingestion. Gloves and eye protection shall be worn when handling it. Only purchase Ethidium Bromide in kits and, when done using it, dispose as toxic hazardous waste.	X		DOH and OSPI 173-303-090,170	
K 070	NOTE: CDC/NIOSH/USCPSC School Chemistry Laboratory Safety Guide: http://www.cdc.gov/niosh/docs/2007-107/pdfs/2007-107.pdf				
K 071	NOTE: King County operates a website for teachers and students relating to Laboratory Safety in Schools at: www.lhwmp.org/home/educators/rehabthelab.aspx				
K 072	NOTE: EPA's Schools Chemical Cleanout Campaign has useful references: http://www.epa.gov/epawaste/partnerships/sc3/index.htm				
K 073	NOTE: National Science Teachers Association's (NSTA) Safety in the Science Classroom, resources: http://www.nsta.org/portals/safety.aspx?lid=hp				

WASHINGTON SCHOOLS RISK MANAGEMENT POOL

Name of School District _____

Name of School _____ Room # _____

Inspected By _____ Date _____

AUTO SHOP

DESCRIPTION	Y	N	COMMENTS
WAC 246-366-140 & 296-62-20004 Floors shall be clean and kept free of oil and other slippery substances.			
WAC 246-366-140, & 296-806-20004 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, areas around equipment shall be marked with a two-foot safety zone. Projections shall be plainly marked.			
WAC 246-366-140, 296-806-200 All power tools shall be safe, properly labeled, and protected with correct belts, guards, and electrical connections.			
WAC 296-806-200, 296-806-20028 to 20034 Machine guarding shall meet WAC 296-806. Safety guards must be properly adjusted and functional for safe machine operation.			
WAC 246-366-140 & 296-807-15050 Hand tools shall be properly maintained and kept in a safe condition.			
WAC 246-366-140 & 296-800-11010 General operating instructions and safety reminder signs shall be posted on or near moving machinery and shop equipment.			
WAC 246-366-140 & 296-800-11010 Shop safety rules shall be displayed in plain view of room occupants.			
WAC 246-366-140 & 296-806-20002 Unstable equipment (e.g., drill presses, band saws, etc.) shall be secured to the floor or a table/stand to prevent tipping. Stand mounted equipment shall be fastened to the floor to prevent tipping.			
WAC 246-366-140, & 296-800-22035 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.			
WAC 246-366-140, 296-24-95605 & IFC 605.3 All electrical panels, devised and connections shall be labeled and maintained in a safe condition. Nothing shall be stored 36" in front of or 18" to the side of electrical panels.			
WAC 246-366-140, 296-155-020 & 173-303 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 DOE regulations.			
WAC 246-366-140 & 173-303 Waste oil storage and disposal shall comply with DOE regulations. Oil spilled around storage barrels shall be cleaned up immediately. Containers need to be closed when not in use.			
WAC 246-366-140 A non-asbestos fire blanket shall be provided, identified, readily available, and visible to students & staff.			
WAC 246-366-140 & 296-800-22035 Project storage shall be adequate and safe.			
WAC 246-366-140 & 296-800-15030 Emergency eye wash stations shall be within 50 feet or ten seconds of all student workstations and shall provide 2.5 gpm for at least 15 minutes at 25 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.			
WAC 246-366-140 & 296-806-40502 & 40510 All grinders shall have proper tool rests and eye safety shields			
WAC 246-366-140, 296-24-70003, 296-800-16040 & 16045 & ANSI 2.87.1 Eye protective devises (safety glasses, goggles, and full-face shields) are identified, visible, readily accessible and used by students and staff.			
WAC 246-366-140, 296-24-71503 & 296-24-71505 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.			

DESCRIPTION	Y	N	COMMENTS
WAC 246-366-140, 296-24-69007 & 296-24-71501 Welding curtains or shields shall be provided at booths and other welding areas.			
WAC 246-366-140, & 296-800-11010 Safety signs should be posted where needed; e.g., "turn on ventilation," "wear eye protection." L&I does not require signs; but when signs are utilized, uniform design, including wording, shape and color, are mandated.			
WAC 246-366-140 & 296-806-20012 & IFC 3503.1.3 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.			
WAC 246-366-140 & 296-24-68201, 3 & IFC 3003 Compressed gas cylinders 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 structure.			
WAC 246-366-140, 296-24-68507 & 296-24-70003 The gas welding/cutting area shall comply with state fire code and WISHA requirements. Eye protection shields shall be provided.			
WAC 246-366-140, 296-24-33009, IFC 3404.3 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.			
WAC 246-366-140, 296-24-33009, & IFC 3405 All solvents for parts cleaning shall be stored in approved containers. Class 1 flammable liquids shall not be used. Fusible links on solvent tank lids shall be in place and shall operate as designed.			
WAC 246-366-140 & IBC Ch.28 Wood burning stoves shall not be used in school buildings.			
WAC 246-366-140, 296-24-370, 296-62-11019 & IFC 1504 Flammable finish areas and paint spray rooms shall have approved ventilation, filters, lighting, storage cabinets, and separation from other rooms.			
WAC 246-366-140, 296-24-370 & 296-62-11019 & IFC 1504 Filters in the paint spray booth/room shall be changed or cleaned as required			
WAC 246-366-140, 296-24-370 & IFC 1503 Only Class 1 electrical, explosion-proof lights, fan or other electrical devices shall be allowed in flammable finish areas.			
WAC 246-366-140 & 296-62-11003 Ventilation and exhaust systems shall be installed in all shop areas in compliance with L&I WISHA rules,			
WAC 246-366-140 , 296-62-11003 & IFC 1903 Chip and sawdust collection systems shall be installed in all wood shops.			
OSPI VOCATIONAL SAFETY GUIDE & WAC 296-806-20004 Non-skid surfacing shall be used within the operator use zone of all stationary equipment.			
Annual professional maintenance - WSRMP Recommendations & WAC 296-806-200			
Monthly inspection documented - WSRMP Recommendations & WAC 296-806-200			
Air hoses/fittings/nozzles – WAC 296-807-14025			
MSDS provided in shop – WAC 296-800-17015			
Solvent containers labeled – WAC 296-828-20020			
Proper Containers for flammables – WAC 296-24-33009 & IFC 3405			
Adequate lighting for tasks – WAC 296-800-210			
Items stored on lower shelves – American Red Cross Classroom Safety Checklist			
Emergency procedures posted – WAC 296-24-567			
Fire evacuation routes posted – WAC 296-24-56701			
Fire extinguishers charged/operable – WAC 296-800-30015			
GFCI within 6' of a sink – WAC 296-24-95607			
Exit paths clear – WAC 296-800-31025			
Cabinets secured to wall or floor – American Red Cross Classroom Safety Checklist			

THE FOLLOWING EQUIPMENT IS REQUIRED TO BE GUARDED, PROPERLY SECURED AND HAVE PROPER SAFETY DEVISES ACCORDING TO WAC 296-806 & 24

DESCRIPTION	Y	N	COMMENTS
Car hoists – **Last inspection date**: WAC 296-24-215			
Hydraulic engine lifts and jacks WAC 296-24-215 to 235, 807-170			
Cribbing used with jack stands WAC 296-803-40005			
Grinding wheel tongue guard WAC 296-806-40508			
Drill press WAC 296-806-455			
Tire changer WAC 296-806-200 & 300			
Metal lathe WAC 296-806-45002 to 45010			
Oxy-acetylene welder WAC 296-24-682			
Spot welder WAC 296-24-69003			
Electric welders (arc, MIG, TIG) WAC 296-24-680			
Tools with chains WAC 296-24-29413			
Other equipment			
Other equipment			

DESCRIPTION	Y	N	COMMENTS
WAC 246-366-140, 296-24-69007 & 296-24-71501 Welding curtains or shields shall be provided at booths and other welding areas.			
WAC 246-366-140, & 296-800-11010 Safety signs should be posted where needed; e.g., "turn on ventilation," "wear eye protection." L&I does not require signs; but when signs are utilized, uniform design, including wording, shape and color, are mandated.			
WAC 246-366-140 & 296-806-20012 & IFC 3503.1.3 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.			
WAC 246-366-140 & 296-24-68201, 3 & IFC 3003 Compressed gas cylinders 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 structure.			
WAC 246-366-140, 296-24-68507 & 296-24-70003 The gas welding/cutting area shall comply with state fire code and WISHA requirements. Eye protection shields shall be provided.			
WAC 246-366-140, 296-24-33009, IFC 3404.3 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.			
WAC 246-366-140, 296-24-33009, & IFC 3405 All solvents for parts cleaning shall be stored in approved containers. Class 1 flammable liquids shall not be used. Fusible links on solvent tank lids shall be in place and shall operate as designed.			
WAC 246-366-140 & IBC Ch.28 Wood burning stoves shall not be used in school buildings.			
WAC 246-366-140, 296-24-370, 296-62-11019 & IFC 1504 Flammable finish areas and paint spray rooms shall have approved ventilation, filters, lighting, storage cabinets, and separation from other rooms.			
WAC 246-366-140, 296-24-370 & 296-62-11019 & IFC 1504 Filters in the paint spray booth/room shall be changed or cleaned as required			
WAC 246-366-140, 296-24-370 & IFC1503 Only Class 1 electrical, explosion-proof lights, fan or other electrical devices shall be allowed in flammable finish areas.			
WAC 246-366-140 & 296-62-11003 Ventilation and exhaust systems shall be installed in all shop areas in compliance with L&I WISHA rules,			
WAC 246-366-140 , 296-62-11003 & IFC1903 Chip and sawdust collection systems shall be installed in all wood shops.			
OSPI VOCATIONAL SAFETY GUIDE & WAC 296-806-20004 Non-skid surfacing shall be used within the operator use zone of all stationary equipment.			
Annual professional maintenance - WSRMP Recommendations & WAC 296-806-200			
Monthly inspection documented - WSRMP Recommendations & WAC 296-806-200			
Air hoses/fittings/nozzles – WAC 296-807-14025			
MSDS provided in shop – WAC 296-800-17015			
Solvent containers labeled – WAC 296-828-20020			
Proper Containers for flammables – WAC 296-24-33009 & IFC 3405			
Adequate lighting for tasks – WAC 296-800-210			
Items stored on lower shelves – American Red Cross Classroom Safety Checklist			
Emergency procedures posted – WAC 296-24-567			
Fire evacuation routes posted – WAC 296-24-56701			
Fire extinguishers charged/operable – WAC 296-800-30015			
GFCI within 6' of a sink – WAC 296-24-95607			
Exit paths clear – WAC 296-800-31025			
Cabinets secured to wall or floor – American Red Cross Classroom Safety Checklist			

THE FOLLOWING EQUIPMENT IS REQUIRED TO BE GUARDED, PROPERLY SECURED AND HAVE PROPER SAFETY DEVISES ACCORDING TO WAC 296-806, 807 & 24-680

DESCRIPTION	Y	N	COMMENTS
Metal Shear WAC 296-806-445			
Grinding wheel unit WAC 296-806-405			
Grinding wheel tongue guard WAC 296-806-40508			
Sheet metal machine WAC 296-806-445			
Drill press WAC 296-806-455			
Furnace foundry WAC 296-806-430			
Gas forge WAC 296-806-430			
Horizontal band saw WAC 296-806-48042 & 43028			
Metal lathe WAC 296-806-45002 to 45010			
Milling machine WAC 296-806-460			
Metal shaper WAC 296-806-48074			
Cut-off saw WAC 296-806-480 & 43028			
Gas cylinders properly stored WAC 296-24-68201-3			
Oxy-acetylene welder WAC 296-24-682			
Spot welder WAC 296-24-69003			
Arc welder WAC 296-24-68503 & 68505			
Gas hoses/fittings/nozzles WAC 296-24-68209			
Other equipment			
Other equipment			

WASHINGTON SCHOOLS RISK MANAGEMENT POOL

Name of School District _____

Name of School _____ Room # _____

Inspected By _____ Date _____

WELDING SHOP

DESCRIPTION	Y	N	COMMENTS
WAC 246-366-140 & 296-62-20004 Floors shall be clean and kept free of oil and other slippery substances.			
WAC 246-366-140, & 296-806-20004 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, areas around equipment shall be marked with a two-foot safety zone. Projections shall be plainly marked.			
WAC 246-366-140, 296-806-200 All power tools shall be safe, properly labeled, and protected with correct belts, guards, and electrical connections.			
WAC 296-806-200, 296-806-20028 to20034 Machine guarding shall meet WAC 296-806. Safety guards must be properly adjusted and functional for safe machine operation.			
WAC 246-366-140 & 296-807-15050 Hand tools shall be properly maintained and kept in a safe condition.			
WAC 246-366-140 & 296-800-11010 General operating instructions and safety reminder signs shall be posted on or near moving machinery and shop equipment.			
WAC 246-366-140 & 296-800-11010 Shop safety rules shall be displayed in plain view of room occupants.			
WAC 246-366-140 & 296-806-20002 Unstable equipment (e.g., drill presses, band saws, etc.) shall be secured to the floor or a table/stand to prevent tipping. Stand mounted equipment shall be fastened to the floor to prevent tipping.			
WAC 246-366-140, & 296-800-22035 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.			
WAC 246-366-140, 296-24-95605 & IFC 605.3 All electrical panels, devised and connections shall be labeled and maintained in a safe condition. Nothing shall be stored 36" in front of or 18" to the side of electrical panels.			
WAC 246-366-140, 296-155-020 & 173-303 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 DOE regulations.			
WAC 246-366-140 & 173-303 Waste oil storage and disposal shall comply with DOE regulations. Oil spilled around storage barrels shall be cleaned up immediately. Containers need to be closed when not in use.			
WAC 246-366-140 A non-asbestos fire blanket shall be provided, identified, readily available, and visible to students & staff.			
WAC 246-366-140 & 296-800-22035 Project storage shall be adequate and safe.			
WAC 246-366-140 & 296-800-15030 Emergency eye wash stations shall be within 50 feet or ten seconds of all student workstations and shall provide 2.5 gpm for at least 15 minutes at 25 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.			
WAC 246-366-140 & 296-806-40502 & 40510 All grinders shall have proper tool rests and eye safety shields			
WAC 246-366-140, 296-24-70003, 296-800-16040 & 16045 & ANSI 2.87.1 Eye protective devises (safety glasses, goggles, and full-face shields) are identified, visible, readily accessible and used by students and staff.			
WAC 246-366-140, 296-24-71503 & 296-24-71505 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.			

DESCRIPTION	Y	N	COMMENTS
WAC 246-366-140, 296-24-69007 & 296-24-71501 Welding curtains or shields shall be provided at booths and other welding areas.			
WAC 246-366-140, & 296-800-11010 Safety signs should be posted where needed; e.g., "turn on ventilation," "wear eye protection." L&I does not require signs; but when signs are utilized, uniform design, including wording, shape and color, are mandated.			
WAC 246-366-140 & 296-806-20012 & IFC 3503.1.3 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.			
WAC 246-366-140 & 296-24-68201, 3 & IFC 3003 Compressed gas cylinders 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 structure.			
WAC 246-366-140, 296-24-68507 & 296-24-70003 The gas welding/cutting area shall comply with state fire code and WISHA requirements. Eye protection shields shall be provided.			
WAC 246-366-140, 296-24-33009, IFC3404.3 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.			
WAC 246-366-140, 296-24-33009, & IFC 3405 All solvents for parts cleaning shall be stored in approved containers. Class 1 flammable liquids shall not be used. Fusible links on solvent tank lids shall be in place and shall operate as designed.			
WAC 246-366-140 & IBC Ch.28 Wood burning stoves shall not be used in school buildings.			
WAC 246-366-140, 296-24-370, 296-62-11019 & IFC 1504 Flammable finish areas and paint spray rooms shall have approved ventilation, filters, lighting, storage cabinets, and separation from other rooms.			
WAC 246-366-140, 296-24-370 & 296-62-11019 & IFC 1504 Filters in the paint spray booth/room shall be changed or cleaned as required			
WAC 246-366-140, 296-24-370 & IFC1503 Only Class 1 electrical, explosion-proof lights, fan or other electrical devices shall be allowed in flammable finish areas.			
WAC 246-366-140 & 296-62-11003 Ventilation and exhaust systems shall be installed in all shop areas in compliance with L&I WISHA rules,			
WAC 246-366-140 , 296-62-11003 & IFC1903 Chip and sawdust collection systems shall be installed in all wood shops.			
OSPI VOCATIONAL SAFETY GUIDE & WAC 296-806-20004 Non-skid surfacing shall be used within the operator use zone of all stationary equipment.			
Annual professional maintenance - WSRMP Recommendations & WAC 296-806-200			
Monthly inspection documented - WSRMP Recommendations & WAC 296-806-200			
Air hoses/fittings/nozzles – WAC 296-807-14025			
MSDS provided in shop – WAC 296-800-17015			
Solvent containers labeled – WAC 296-828-20020			
Proper Containers for flammables – WAC 296-24-33009 & IFC 3405			
Adequate lighting for tasks – WAC 296-800-210			
Items stored on lower shelves – American Red Cross Classroom Safety Checklist			
Emergency procedures posted – WAC 296-24-567			
Fire evacuation routes posted – WAC 296-24-56701			
Fire extinguishers charged/operable – WAC 296-800-30015			
GFCI within 6' of a sink – WAC 296-24-95607			
Exit paths clear – WAC 296-800-31025			
Cabinets secured to wall or floor – American Red Cross Classroom Safety Checklist			

THE FOLLOWING EQUIPMENT IS REQUIRED TO BE GUARDED, PROPERLY SECURED AND HAVE PROPER SAFETY DEVISES ACCORDING TO WAC 296-24-680 to 722

DESCRIPTION	Y	N	COMMENTS
Oxygen & fuel lines clearly marked & color coded IFC2609.3			
All valves labeled WAC 296-24-68203			
Oxygen and acetylene stores separately WAC 296-24-68203			
Combustible materials stored away from heat WAC 296-24-68203 & IFC2604.1			
Acetylene piping is steel or wrought iron only WAC 296-24-68207			
Empty cylinders stored separately and marked WAC 296-24-68203			
Flash arresters for coupled acetylene cylinders WAC 296-24-68205			
Oxygen piping has high-pressure relief system at outlet WAC 296-24-68207			
Oxygen equipment & hoses are free from oil and grease WAC 296-24-68203 & IFC2605			
Oxygen regulators are marked "USE NO OIL" WAC 296-24-68203			
Emergency fuel shut-off provided and clearly marked IFC3503.1.3			
Manifold system protected or fenced WAC 296-24-68205			
Back flow check valve for each cylinder WAC 296-24-68203			
Fire hazards removed/protected in welding areas IFC2604.1			
Solvents stored away from welding areas IFC3404.2			
30-min. fire watch maintained after welding IFC2604.2.1			
EQUIPMENT IN GOOD CONDITION?			
Oxy-acetylene welder WAC 296-24-682			
Spot welder WAC 296-24-69003			
Arc welder WAC 296-24-68503 to 68505			
Gas hoses/fittings/nozzles WAC 296-24-68209			
Compressor tank inspection current RCW 70.79.240			
Grinding wheel tongue guard provided WAC 296-806-40508			
Other equipment			
Other equipment			

WASHINGTON SCHOOLS RISK MANAGEMENT POOL

Name of School District _____

Name of School _____ Room # _____

Inspected By _____ Date _____

WOOD SHOP

DESCRIPTION	Y	N	COMMENTS
WAC 246-366-140 & 296-62-20004 Floors shall be clean and kept free of oil and other slippery substances.			
WAC 246-366-140, & 296-806-20004 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, areas around equipment shall be marked with a two-foot safety zone. Projections shall be plainly marked.			
WAC 246-366-140, 296-806-200 All power tools shall be safe, properly labeled, and protected with correct belts, guards, and electrical connections.			
WAC 296-806-200, 296-806-20028 to20034 Machine guarding shall meet WAC 296-806. Safety guards must be properly adjusted and functional for safe machine operation.			
WAC 246-366-140 & 296-807-15050 Hand tools shall be properly maintained and kept in a safe condition.			
WAC 246-366-140 & 296-800-11010 General operating instructions and safety reminder signs shall be posted on or near moving machinery and shop equipment.			
WAC 246-366-140 & 296-800-11010 Shop safety rules shall be displayed in plain view of room occupants.			
WAC 246-366-140 & 296-806-20002 Unstable equipment (e.g., drill presses, band saws, etc.) shall be secured to the floor or a table/stand to prevent tipping. Stand mounted equipment shall be fastened to the floor to prevent tipping.			
WAC 246-366-140, & 296-800-22035 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.			
WAC 246-366-140, 296-24-95605 & IFC 605.3 All electrical panels, devised and connections shall be labeled and maintained in a safe condition. Nothing shall be stored 36" in front of or 18" to the side of electrical panels.			
WAC 246-366-140, 296-155-020 & 173-303 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 DOE regulations.			
WAC 246-366-140 & 173-303 Waste oil storage and disposal shall comply with DOE regulations. Oil spilled around storage barrels shall be cleaned up immediately. Containers need to be closed when not in use.			
WAC 246-366-140 A non-asbestos fire blanket shall be provided, identified, readily available, and visible to students & staff.			
WAC 246-366-140 & 296-800-22035 Project storage shall be adequate and safe.			
WAC 246-366-140 & 296-800-15030 Emergency eye wash stations shall be within 50 feet or ten seconds of all student workstations and shall provide 2.5 gpm for at least 15 minutes at 25 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.			
WAC 246-366-140 & 296-806-40502 & 40510 All grinders shall have proper tool rests and eye safety shields			
WAC 246-366-140, 296-24-70003, 296-800-16040 & 16045 & ANSI 2.87.1 Eye protective devises (safety glasses, goggles, and full-face shields) are identified, visible, readily accessible and used by students and staff.			
WAC 246-366-140, 296-24-71503 & 296-24-71505 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.			

DESCRIPTION	Y	N	COMMENTS
WAC 246-366-140, 296-24-69007 & 296-24-71501 Welding curtains or shields shall be provided at booths and other welding areas.			
WAC 246-366-140, & 296-800-11010 Safety signs should be posted where needed; e.g., "turn on ventilation," "wear eye protection." L&I does not require signs; but when signs are utilized, uniform design, including wording, shape and color, are mandated.			
WAC 246-366-140 & 296-806-20012 & IFC 3503.1.3 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.			
WAC 246-366-140 & 296-24-68201, 3 & IFC 3003 Compressed gas cylinders 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 structure.			
WAC 246-366-140, 296-24-68507 & 296-24-70003 The gas welding/cutting area shall comply with state fire code and WISHA requirements. Eye protection shields shall be provided.			
WAC 246-366-140, 296-24-33009, IFC 3404.3 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.			
WAC 246-366-140, 296-24-33009, & IFC 3405 All solvents for parts cleaning shall be stored in approved containers. Class 1 flammable liquids shall not be used. Fusible links on solvent tank lids shall be in place and shall operate as designed.			
WAC 246-366-140 & IBC Ch.28 Wood burning stoves shall not be used in school buildings.			
WAC 246-366-140, 296-24-370, 296-62-11019 & IFC 1504 Flammable finish areas and paint spray rooms shall have approved ventilation, filters, lighting, storage cabinets, and separation from other rooms.			
WAC 246-366-140, 296-24-370 & 296-62-11019 & IFC 1504 Filters in the paint spray booth/room shall be changed or cleaned as required			
WAC 246-366-140, 296-24-370 & IFC1503 Only Class 1 electrical, explosion-proof lights, fan or other electrical devices shall be allowed in flammable finish areas.			
WAC 246-366-140 & 296-62-11003 Ventilation and exhaust systems shall be installed in all shop areas in compliance with L&I WISHA rules,			
WAC 246-366-140 , 296-62-11003 & IFC1903 Chip and sawdust collection systems shall be installed in all wood shops.			
OSPI VOCATIONAL SAFETY GUIDE & WAC 296-806-20004 Non-skid surfacing shall be used within the operator use zone of all stationary equipment.			
Annual professional maintenance - WSRMP Recommendations & WAC 296-806-200			
Monthly inspection documented - WSRMP Recommendations & WAC 296-806-200			
Air hoses/fittings/nozzles – WAC 296-807-14025			
MSDS provided in shop – WAC 296-800-17015			
Solvent containers labeled – WAC 296-828-20020			
Proper Containers for flammables – WAC 296-24-33009 & IFC 3405			
Adequate lighting for tasks – WAC 296-800-210			
Items stored on lower shelves – American Red Cross Classroom Safety Checklist			
Emergency procedures posted – WAC 296-24-567			
Fire evacuation routes posted – WAC 296-24-56701			
Fire extinguishers charged/operable – WAC 296-800-30015			
GFCI within 6' of a sink – WAC 296-24-95607			
Exit paths clear – WAC 296-800-31025			
Cabinets secured to wall or floor – American Red Cross Classroom Safety Checklist			

THE FOLLOWING EQUIPMENT IS REQUIRED TO BE GUARDED, PROPERLY SECURED AND HAVE PROPER SAFETY DEVISES ACCORDING TO WAC 296-806, 807 & 296-155-370

DESCRIPTION	Y	N	COMMENTS
Bench type grinding wheel unit WAC 296-806-405			
Pedestal type grinding wheel unit WAC 296-806-405			
Jointer WAC 296-806-48056 to 60			
Radial arm saw WAC 296-806-48030			
Miter saw WAC 296-806-48028			
Band saw WAC 296-806-48042			
Jig saw WAC 296-155-370			
Table saw #1 WAC 296-806-480			
Table saw #2 WAC 296-806-480			
Planer WAC 296-806-48066 to 72			
Shaper/router WAC 296-806-48074			
Wood lathe WAC 296-806-45012 to 45018			
Disk sander WAC 296-806-47504			
Belt sander WAC 296-806-47506			
Drum sander WAC 296-806-47502			
Drill press WAC 296-806-455			
Other equipment			
Other equipment			