KEY ELEMENTS OF A OSHA COMPLIANT LABORATORY SAFETY MANAGEMENT PROGRAM

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2018 VA AWWA/VWEA
GOOD LABORATORY PRACTICE
CONFERENCE

SAFETY SELF ASSESSMENT

1) Do you work with hazardous chemicals in your lab?
2) Does your lab have a written Chemical Hygiene Plan?
3) Does your lab have a Hazard Communication Plan (HAZCOM) plan?
4) Does your lab have a Control of Hazardous Energy plan?
5) Do you have a formal (documented) safety training program?
6) If you have 10 employees or more do you have a written evacuation plan? If less than 10, do you communicate the plan verbally to all new employees?
7) Are your SDS's in a central location and easily assessable?
8) Do you perform eye wash training every year?
9) Do you have a spill kit?
10) Do you have a SDS for Hg if you use Hg thermometers?

Bonus – What's another name for the control of hazardous energy plan?

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Occupational Safety and Health Act of 1970

Under the General Duty Clause Requires:

"**Each employer** shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees."

"**Each employer** shall comply with occupational safety and health standards promulgated under this act."

"**Each employee** shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct."

What About Public Employees in Virginia?

- The VOSH Safety Compliance Division enforces the state unique and federal identical laws and regulations that address the occupational safety and health of workers employed in general industry and construction, agriculture, **the public sector** and public sector maritime industries.

- VOSH conducts safety inspections in response to accidents, complaints, referrals, and randomly scheduled inspections of high hazard industries

OSHA LABORATORY STANDARDS

- 29 CFR 1910.1450 The Occupational Exposure to Hazardous Chemicals in Laboratories (The OSHA Laboratory Standard)
- 29 CFR 1910.1200: The Hazard Communication Standard
- 29 CFR 1910.1030: The Bloodborne Pathogen Standard
- 29 CFR 1910.132: The Personal Protective Equipment Standard
- 29 CFR 1910.133 The Eye and Face Protection Standard
- 29 CFR 1910.134 The Respiratory Protection Standard
- 29 CFR 1910.134 The Hand Protection Standard
- 29 CFR 1910.147 The Control of Hazardous Energy Standard (aka The Lockout/Tagout Standard)

MUST HAVE WRITTEN PROGRAMS FOR EACH!!

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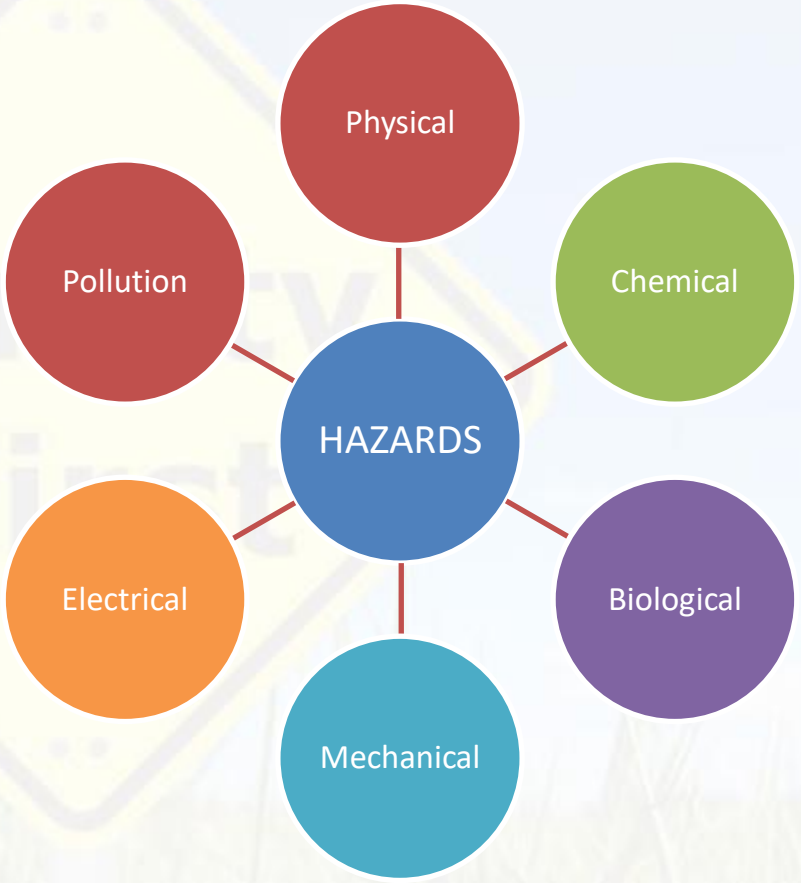
Laboratory Hazards



The Top 10 most frequently cited Violations in 2013

- **Fall protection**, construction
- **Hazard communication standard**, general industry
- **Scaffolding**, general requirements, construction
- **Respiratory protection**, general industry
- **Electrical**, wiring methods, components and equipment, general industry
- **Powered industrial trucks**, general industry
- **Ladders**, construction
- **Control of hazardous energy (lockout/tagout)**, general industry
- **Electrical systems design**, general requirements, general industry
- **Machinery and Machine Guarding**, general requirements

Documentation Required by OSHA

Chemical Hygiene Plan (CHP)

Hazard Identification/Communication

Documentation Required by OSHA

Purpose of OSHA's Chemical Hygiene Plan (CHP) Requirements

A chemical hygiene safety plan is a written manual that lists the rules that laboratory staff must follow to ensure workplace safety.

OSHA regulates chemicals known to be a health hazard when humans are exposed to them. The safety requirements that must be included in a chemical hygiene safety plan are contained in OSHA regulations.

Your CHP manual should be clearly written and easy to follow

Documentation Required by OSHA

Examples of "hazardous chemicals " in the Water/Wastewater Lab:

Acid
Acetone
Ammonium hydroxide (cleaning DO probes)
Caustic (NaOH)
pH standards
Low DO Standard (Cobalt Chloride)
Potassium Permanganate

SAMPLE CHEMICAL HYGIENE SAFETY PLAN

CHP INCLUDES:

- PPE
- FUME HOOD MAINTENANCE
- FUME HOOD USE
- CHEMICAL SPILL KITS
- WHAT TO DO FOR ACID, CAUSTIC, ORGANIC, MERCURY SPILLS
- CHEMICAL PROCUREMENT
- CHEMICAL STORAGE

SAMPLE CHEMICAL HYGIENE SAFETY PLAN

Personal Protective Equipment

1. Eye protection (safety glasses) must be worn at all times in all laboratory areas.
2. Safety glasses must be worn when washing glassware. A full face shield is provided for use when rinsing glassware with acetone and acid, if desired.
3. Shealy Consulting, LLC, will provide prescription safety glasses. Please see the Technical Director, if needed.
4. Lab coats are not required, but are provided and are recommended for use when washing glassware.
5. Heat gloves must be used when removing items from the drying oven,
6. Non-latex gloves are provided for use and must be worn when handling acids, bases, solvents, or non-disinfected wastewater.

Chemical Spill Kits

There are two chemical spill clean-up kits in the facility, and their locations are denoted on the building plan provided in Appendix A of this document. The kits are inspected monthly for completeness. Each kit contains:

1. Instructions for use (Appendix C, SCF-LS-021)
2. 1 bag of absorbent material (kitty litter)
3. 1 box of Ziploc bags
4. 1 container of mercury tamer
5. 1 box of pH strips
6. 1 scoop/sweep
7. 1 box of baking soda
8. Acid Spill-X
9. Basic Spill-X
10. Organic Spill-X
11. Nitrile gloves.

SAMPLE CHEMICAL HYGIENE SAFETY PLAN

Acid Spills

1. Always wear safety glasses and nitrile gloves
2. Report spill to your supervisor
3. Neutralize spill with baking soda by adding until spill no longer bubbles, use respirator if vapors are irritating, use pH strips to confirm spill is neutralized (pH 5-8)
4. Add absorbent to soak up any remaining liquid, working from the perimeter inward.
5. Use scoop/ sweep to place spill in zip lock bag, clean scoop before returning to spill kit.
6. Seal bag and place in waste disposal container for proper disposal.
7. Wipe area of spill with damp paper towel.

Caustic Spills

1. Always wear safety glasses and nitrile gloves.
2. Report spill to your supervisor.
3. Neutralize spill with baking soda, use pH strips to confirm spill is neutralized (pH 10 less).
4. Add absorbent to soak up any remaining liquid, working from the perimeter inward.
5. Use scoop/ sweep to place spill in zip lock bag, clean scoop before returning to spill kit.
6. Seal bag and place in waste disposal container for proper disposal.
7. Wipe area of spill with damp paper towel.

SAMPLE CHEMICAL HYGIENE SAFETY PLAN

Organic Spills

1. Always wear safety glasses and nitrile gloves.
2. Report spill to your supervisor.
3. Put on respirator.
4. Add organic spill-x to soak up spill, working from the perimeter inward.
5. Use scoop/ sweep to place spill in metal tray or bucket.
6. Place tray in fume hood with blower on and allow fumes to evaporate.
7. Put absorbent in zip lock bag & place in waste disposal container clean scoop before returning to spill kit.
8. Wipe area of spill with damp paper towel.

Mercury Spills

1. Always wear safety glasses and nitrile gloves.
2. Report spill to your supervisor.
3. Transfer as many mercury droplets to collection bottle as possible.
4. Sprinkle mercury tamer over any remaining mercury.
5. Brush area to embed any remaining traces of mercury in tamer.
6. Sweep up into scoop and place in collection bottle, clean scoop before returning to spill kit.
7. Store in designated area under the fume hood until proper disposal is arranged.

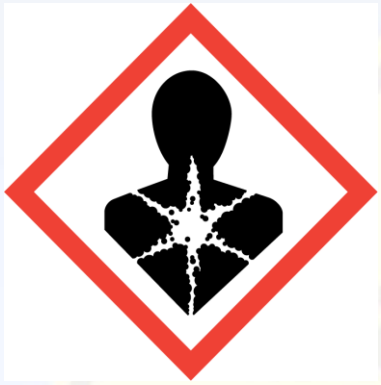
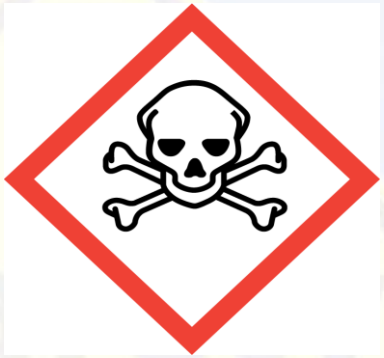
Documentation Required by OSHA

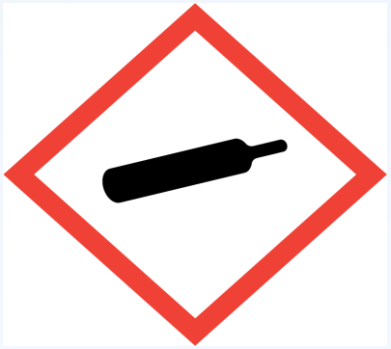
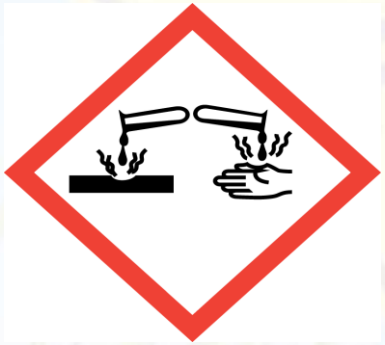
Purpose of OSHA's Hazard Communication Standard

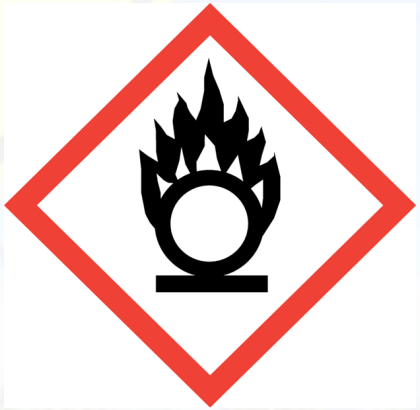
"The HCS provides people the right-to-know the hazards and identities of the chemicals they are exposed to in the workplace. When employees have this information, they may effectively participate in their employers' protective programs and take steps to protect themselves. In addition, the standard gives employers the information they need to design and implement an effective protective program for employees potentially exposed to hazardous chemicals. Together these actions will result in a reduction of chemical source illnesses and injuries in American workplaces."

From US Department of Labor website

“NEW” PICTOGRAMS

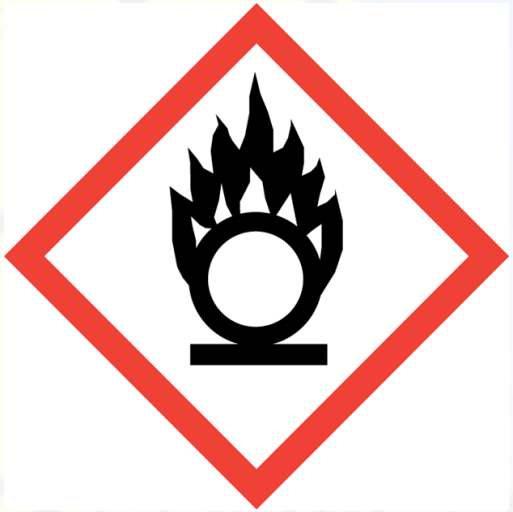






“NEW” PICTOGRAMS

Flame over circle



TRAINING ON PICTOGRAMS

SAMPLE LABEL

PRODUCT IDENTIFIER

CODE _____
Product Name _____

SUPPLIER IDENTIFICATION

Company Name_____
Street Address _____
City _____ State _____
Postal Code _____ Country _____
Emergency Phone Number _____

PRECAUTIONARY STATEMENTS

Keep container tightly closed. Store in cool, well ventilated place that is locked.
Keep away from heat/sparks/open flame. No smoking.
Only use non-sparking tools.
Use explosion-proof electrical equipment.
Take precautionary measure against static discharge.
Ground and bond container and receiving equipment.
Do not breathe vapors.
Wear Protective gloves.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
Dispose of in accordance with local, regional

HAZARD PICTOGRAMS

Pictogram, Includes all that apply

SIGNAL WORD

Danger

HAZARD STATEMENT

Highly flammable liquid and vapor.
May cause liver and kidney damage.

SUPPLEMENTAL INFORMATION

Directions for use

_____
_____
_____

Fill weight: _____ Lot Number _____
Gross weight: _____ Fill Date: _____
Expiration Date: _____

Documentation Required by OSHA

Safety and Health Training

Address the safety and health responsibilities of all personnel

Incorporate it into other training and job performance/practice

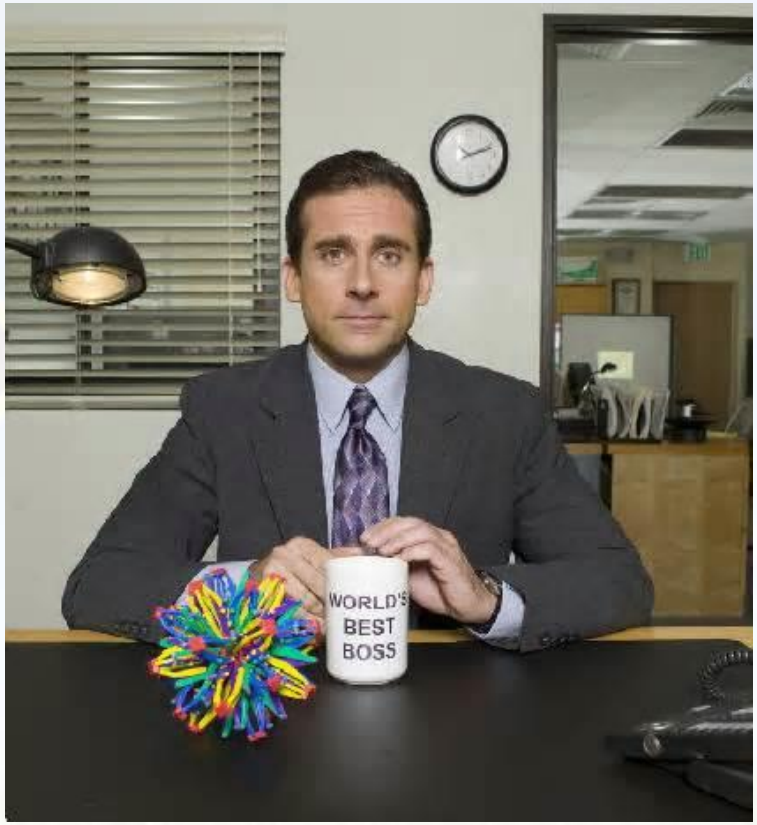
Employees must understand the hazards they may be exposed to and how to prevent harm to themselves and others from hazard exposure

Orientation training must be given to site and contract workers

Documentation Required by OSHA

Supervisor Responsibilities

- Analyze work to identify potential hazards in area of responsibility
- Maintain physical protections in work areas
- Reinforce employee training through performance feedback and, if needed, enforcement of safe work practices



Questions?

Need Help?

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