



EMPLOYEE RIGHT-TO-KNOW TRAINING

QUESTIONS?

Any time throughout the slide show or
throughout the school year:

Contact Rachel Koehler at IEA

763-315-7900

rachel.koehler@ieasafety.com

Or Mark Hatfield at 629-4125

it starts with... **OSHA**



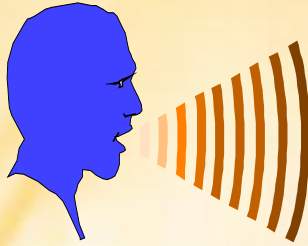
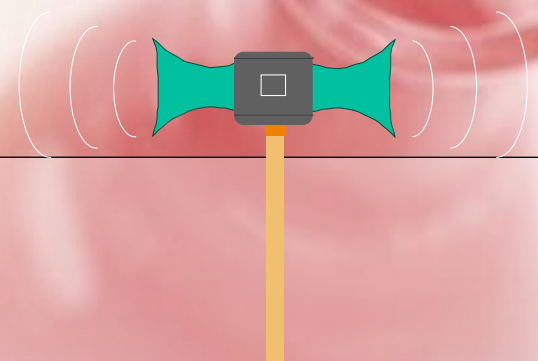
The **Occupational Safety and Health Act**

of 1970 was enacted to assure a safe and healthful

working condition for **EMPLOYEES** by requiring

EMPLOYERS to comply with certain standards..

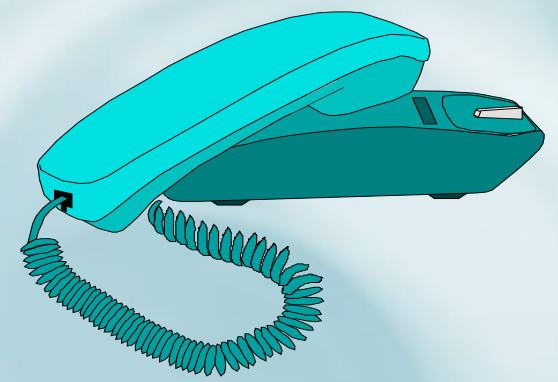
HAZARD COMMUNICATION (OSHA 29 CFR 1910.1200)



Employee Right-To-Know (Minnesota Statute Chapter 5206)



WE ARE RESPONDING!



Questions? Contact Rachel Koehler with IEA at 763-315-7900 or Rachel.Koehler@ieasafety.com

WHAT'S IN IT FOR ME?

- Reminder on how to protect yourself from chemical and physical hazards
- Satisfy OSHA requirement for annual training
- We want you to go home safely at the end of each work day

Question: Who is responsible for your safety?

Answer: YOU ARE

ERK OVERVIEW

- ▶ The ERK coordinator for your district is Mark Hatfield
- ▶ The ERK standard requires employers to make employees aware of hazardous substances and/or agents that may be encountered at work

ERK OVERVIEW

- Responsibility
- Updates – Global Harmonization System (GHS)
- Hazard determination by employers
- Written program
- Material Safety Data Sheets (MSDSs)
- Labels and other warnings
- Methods of protection
- Emergency procedures

GHS

Globally Harmonized System (GHS) for standardizing and harmonizing the classification and labeling of chemicals.

- Goal: To ensure employers, employees and the public are provided with adequate, practical, reliable, and **comprehensible** information on hazardous chemicals
- Allow for appropriate protective measures for health and safety

WHY GHS?

To have a **common worldwide** approach to classifying and communicating chemical hazards.

- Harmonized definition of hazards
- Specific criteria for labels
- Harmonized format for safety data sheets (SDS) formerly called material safety data sheets (MSDS)

WHY GHS?

- The idea is that the same criteria will be used all over the world to determine if a material is flammable, toxic, corrosive, etc.
- To avoid classifying the same product as hazardous or non-hazardous, depending on which classification system is used

For example, a product may be considered flammable or toxic in one country, but not in another to which it is being shipped

EFFECT ON ALL EMPLOYERS

- All Employers
 - Train on new SDS format
 - 16 element format
 - Train on GHS label elements
 - pictograms
 - signal words
 - hazard statements
 - precautionary statements
 - Maintain the updated SDSs



CHANGES - GHS

- Globally Harmonized System of Classification and Labeling of Chemicals
 - Defining health, physical and environmental hazards;
 - Creating classification processes using available data on chemicals
 - Communicating hazard information, and protective measures, on labels and Safety Data Sheets (SDS).

Compliance dates

EFFECTIVE DATE	REQUIREMENT	WHO IT AFFECTS
Dec. 1, 2013	Train all employees on the new label elements and Safety Data Sheet format	Employers
June 1, 2015	Comply with all modified provisions of this rule, except distributors that are allowed to ship products labeled by manufacturers under the old system until Dec. 1, 2015	Chemical manufacturers, importers, distributors and employers
Dec. 1, 2015	Comply with all modified provisions of the rule	Distributors
June 1, 2016	Update alternative workplace labeling and hazard communication program as necessary, and provide additional employee training for newly identified physical or health hazards	Employers

Note: During the transition period, all chemical manufacturers, importers, distributors and employers may comply with either the final standard, the current standard or both.

Source: OSHA

HEALTH EFFECTS

Acute

- Generally manifests quickly (either immediately or within days after an exposure).
- An example would be an acid spill on skin. The acute effect is immediate irritation or corrosion of the skin.

Chronic

- Usually takes longer to develop through repeated exposures.
- Usually targets certain organs (i.e. asbestos targets the lungs).
- An individual may not be able to sense the exposure.

CATEGORIES OF CHEMICAL HAZARDS

- Toxic – kills living cells
- Irritant – causes inflammation of tissues
- Corrosive – irreversibly destroys or alters tissues
- Oxidizer – enhances combustion of other materials
- Sensitizer – causes exaggerated allergic-type response
- Flammable – capable of being easily ignited and burning quickly

CATEGORIES OF HAZARDS

- Reactive – causes rapid chemical reactions such as temperature increases, pressure buildup, or noxious/toxic/corrosive byproducts
- Carcinogen – causes cancer or has the potential to cause cancer
- Mutagen – causes mutation of DNA or chromosomes
- Teratogen – causes physical defects of developing embryo or fetus
- Reproductive Agents – causes sexual dysfunction, sterility, infertility

HARMFUL PHYSICAL AGENTS

Physical agents may also be present in the workplace

– Heat



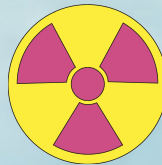
– Noise



– Vibrations



– Ionizing radiation



– Non-ionizing radiation



HARMFUL PHYSICAL AGENTS DEFINED

- Heat can be a byproduct of work. The body cools itself through increased blood flow to the skin and through perspiration. Working in a hot environment can alter the body's natural defenses against heat. Heat stress is rarely a hazard within a school district; however, the district's staff is informed of the potential for heat stress during summer months and is instructed to take frequent breaks in a cooler environment and increase liquid intake to help guard against heat stress and heat stroke.
- Federal OSHA sets specific standards for noise exposure in 29 CFR 1910.95. Protection would be provided by the district when employee noise exposure exceeds OSHA's Action Level of 85 decibels (dB) based on an eight-hour time-weighted average. Employees exposed to this level of noise would be covered in the district's *Hearing Conservation Program*.
- Vibrations are not typical in school settings; there is not a policy set to reduce/eliminate at this time.
- Ionizing radiation is found in X-ray equipment, radioactive materials, and a variety of other equipment. The potential for over-exposure to this type of radiation does not usually exist in schools and no plans to reduce or eliminate exposure have been developed for the district.
- Non-ionizing radiation can come from equipment such as microwaves, televisions, baby monitors, or AM/FM clock radios. It is different from ionizing radiation in that it is non-cumulative. This type of radiation is only hazardous in extremely high amounts, not typically associated with school districts. Therefore, the district does not have a policy to eliminate this type of hazard from the workplace.

GHS CHANGES

- New labels and SDSs will use the following classifications to address the hazards
- Health Hazards
 - Acute Toxicity
 - Skin Corrosion/Irritation
 - Serious Eye Damage/Eye Irritation
 - Respiratory or Skin Sensitization
 - Germ Cell Mutagenicity
 - Carcinogenicity
 - Reproductive Toxicity
 - Target Organ Systemic Toxicity – Single and Repeated Dose

HEALTH HAZARDS CLASSIFICATIONS

Hazard Class	Hazard Category			
Acute Toxicity	1	2	3	4
Skin Corrosion/Irritation	1A	1B	1C	2
Serious Eye Damage/ Eye Irritation	1	2A	2B	
Respiratory or Skin Sensitization	1			
Germ Cell Mutagenicity	1A	1B	2	
Carcinogenicity	1A	1B	2	
Reproductive Toxicity	1A	1B	2	Lactation
STOT –Specific Target Organ Toxicity - Single Exposure	1	2	3	
STOT – Repeated Exposure	1	2		
Aspiration	1			
<i>Simple Asphyxiants</i>	Single Category			

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GHS CHANGES

- New labels and SDSs will use the following classifications to address the hazards
- Physical Hazards
 - Explosives
 - Flammability – gases, aerosols, liquids, solids
 - Oxidizers – liquid, solid, gases
 - Self-Reactive
 - Pyrophoric – liquids, solids
 - Self-Heating
 - Organic Peroxides
 - Corrosive to Metals
 - Gases Under Pressure
 - Water activated flammable gases

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PHYSICAL HAZARDS

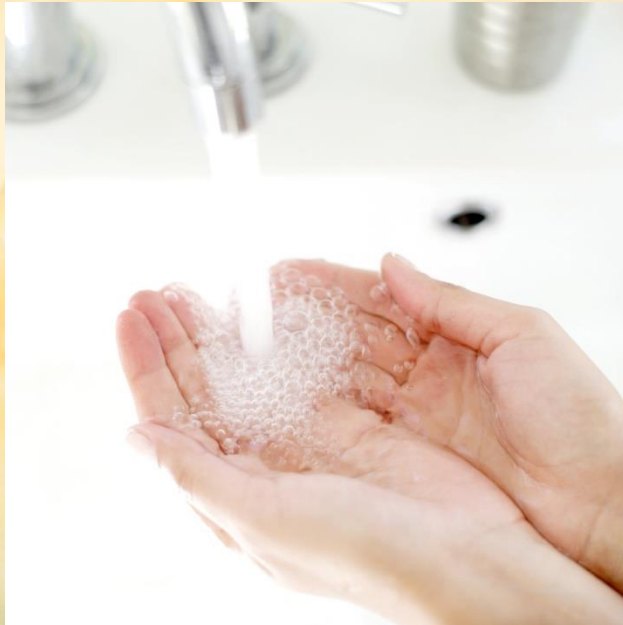
Hazard Class	Hazard Category						
	Unstable Explosives	Div 1.1	Div 1.2	Div 1.3	Div 1.4	Div 1.5	Div 1.6
Explosives	Unstable Explosives	Div 1.1	Div 1.2	Div 1.3	Div 1.4	Div 1.5	Div 1.6
Flammable Gases	1	2					
Flammable Aerosols	1	2					
Oxidizing Gases	1						
Gases under Pressure Compressed Gases Liquefied Gases Refrigerated Liquefied Gases Dissolved Gases	1						
Flammable Liquids	1	2	3	4			
Self-Reactive Chemicals	Type A	Type B	Type C	Type D	Type E	Type F	Type G
Pyrophoric Liquids	1						
Pyrophoric Solid	1						
<i>Pyrophoric Gases</i>	Single category						
Self-heating Chemicals	1	2					
Chemicals, which in contact with water, emit flammable gases	1	2	3				
Oxidizing Liquids	1	2	3				
Oxidizing Solids	1	2	3				
Organic Peroxides	Type A	Type B	Type C	Type D	Type E	Type F	Type G
Corrosive to Metals	1						
<i>Combustible Dusts</i>	Single Category						

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OTHER WARNING SYSTEMS V. GHS

- NFPA uses 0-4 scales with 4 being most hazardous
- HMIS uses 0-4 scales with 4 being most hazardous
- GHS uses 1- 4 scales with 1, 1A or Type A as most hazardous

ROUTES OF ENTRY



Dermal or Skin

- Absorption
- Direct contact
- Open wound

Inhalation

Throat and lungs

Ingestion

Mouth / gastrointestinal tract

Directly into the Eye

Injection – Needle Stick

MATERIAL SAFETY DATA SHEETS

- Manufacturer's recommendation on how to use the chemical safely
- **All** chemicals should have an MSDS available. Each time a new chemical is acquired it must be added to the binder located in each department.

CHANGES – SAFETY DATA SHEETS

- With GHS, OSHA is requiring chemical manufacturers and distributors to update their MSDSs to SDSs
- OSHA has provided a 16-section template of all the information the chemical manufacturers and distributors shall use
- They have until June, 2015 to provide the new SDSs

SAFETY DATA SHEET FORMAT

- 1. Identification of the substance or mixture and of the supplier**
- 2. Hazards identification**
- 3. Composition/information on ingredients**
- 4. First-aid measures**
- 5. Fire-fighting measures**
- 6. Accidental release measures**
- 7. Handling and storage**
- 8. Exposure controls/personal protection**
- 9. Physical and chemical properties**
- 10. Stability and reactivity**
- 11. Toxicological information**
- 12. Ecological information**
- 13. Disposal considerations**
- 14. Transport information**
- 15. Regulatory information**
- 16. Other information, including date of preparation or last revision**

LABELS

- All containers must be properly labeled
 - Original containers from manufacturer should be adequately labeled
 - Secondary containers
 - Identity of product
 - Appropriate hazard warnings
- Avoid bringing chemicals from home!





Make sure all containers are labeled with a descriptive name and hazard warning.

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SAMPLE GHS LABEL



ToxiFlam (Contains: XYZ)

Danger! Toxic If Swallowed, Flammable Liquid and Vapor



Do not eat, drink or use tobacco when using this product. Wash hands thoroughly after handling. Keep container tightly closed. Keep away from heat/sparks/open flame. – No smoking. Wear protective gloves and eye/face protection. Ground container and receiving equipment. Use explosion-proof electrical equipment.

Take precautionary measures against static discharge. Use only non-sparking tools. Store in cool/well-ventilated place.

IF SWALLOWED: Immediately call a POISON CONTROL CENTER or doctor/physician. Rinse mouth.

In case of fire, use water fog, dry chemical, CO₂, or “alcohol” foam.

See Material Safety Data Sheet for further details regarding safe use of this product

MyCompany, MyStreet, MyTown, NJ 00000, Tel: 444 999 9999

This is a sample of what labels will look like as of June 2015. In the next couple of slides it will explain some of the new symbols that will be found on the new labels for compliance with GHS.

PICTOGRAM SHAPE AND COLOR

Pictograms have a black symbol on a white background with a red diamond frame



EXPLODING BOMB

- Explosives
- Self-reactive substances
- Organic peroxides

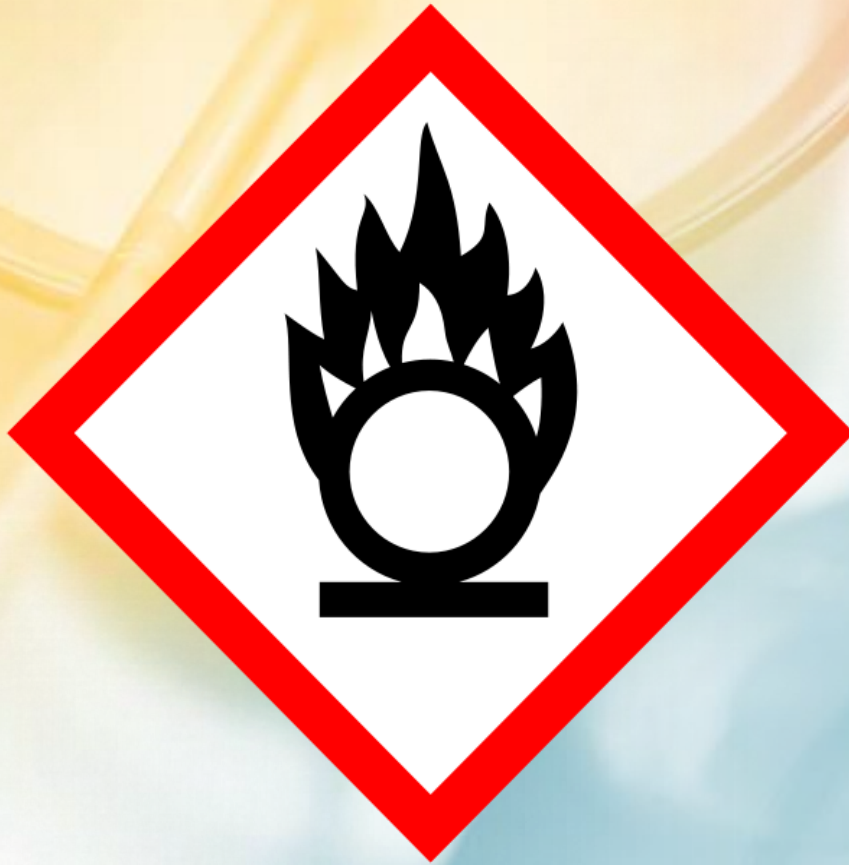


FLAME

- Flammables
- Emits flammable gas
- Self-reactive substances
- Pyrophorics (spontaneously igniting in air)
- Self-heating substances
- Organic peroxides



FLAME OVER CIRCLE



- Oxidizers
(removes electrons)

GAS CYLINDER

- Compressed gases
- Liquefied gases
- Dissolved gases



CORROSION



- Skin corrosion
- Eye damage
- Corrosive to metals

SKULL AND CROSSBONES

- Acute toxicity
(fatal or severe toxicity)



EXCLAMATION MARK



- Acute toxicity (harmful)
- Irritant
- Skin sensitizer
- Narcotic effects
- Target organ toxicity
- Hazard to ozone layer (non-mandatory)

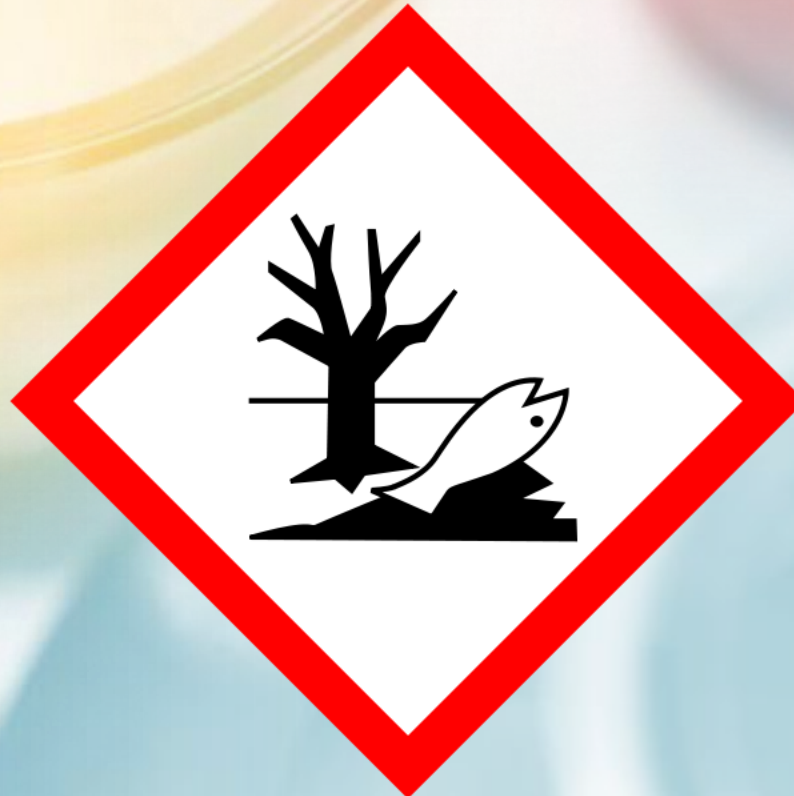
HEALTH HAZARD



- Carcinogen
- Mutagen
- Reproductive toxicity
- Respiratory sensitizer
- Target organ toxicity
- Aspiration hazard

9TH PICTOGRAM – NOT ADOPTED BY OSHA

Environmental Toxicity



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GHS LABELING – SIGNAL WORDS

Signal words

- Used to emphasize hazard and discriminate between levels of hazard

The signal words used in the GHS are:

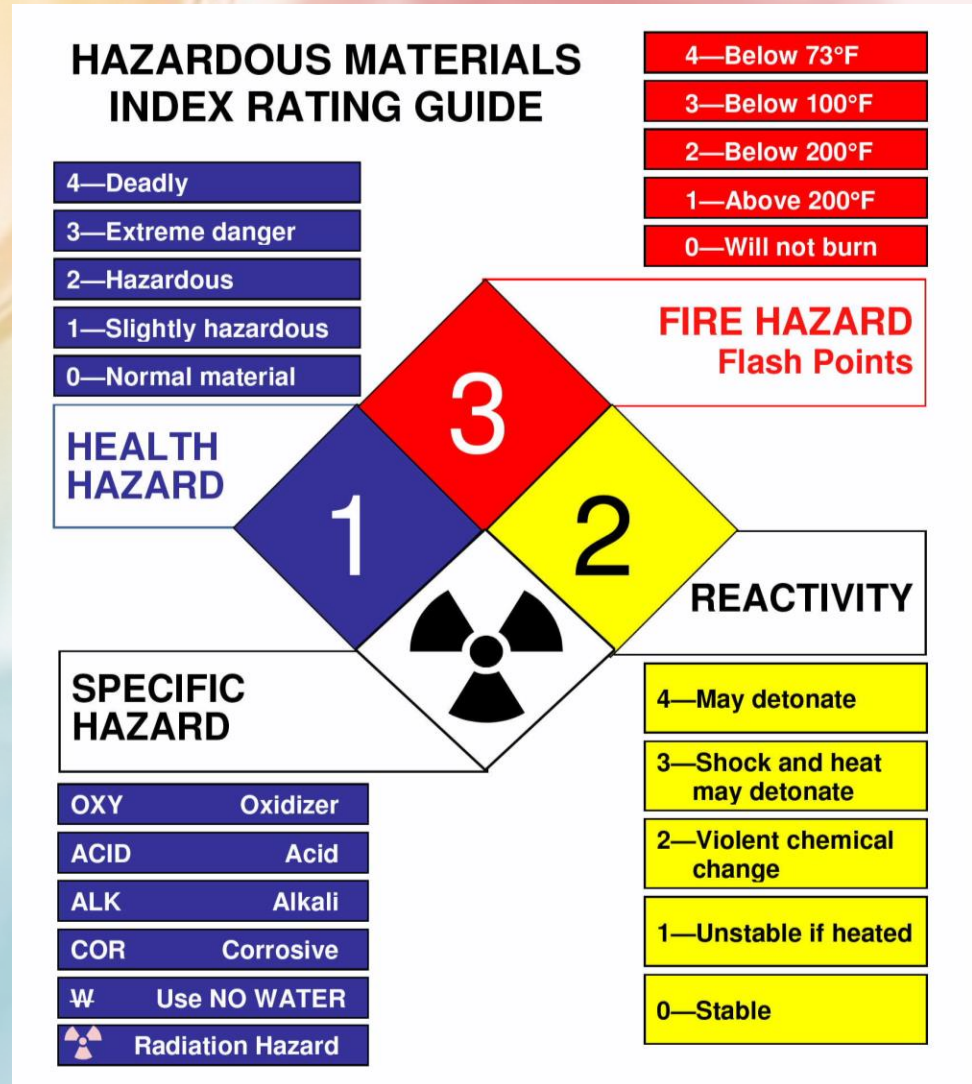
 **DANGER** for more severe hazards

for less severe hazards



NFPA LABEL

- Blue = Health/Toxicity
- Red = Fire Hazard
- Yellow = Reactivity
- White = Special Information



OTHER WARNING SYSTEMS V. GHS

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- GHS uses 1- 4 scales with 1, 1A or Type A as most hazardous

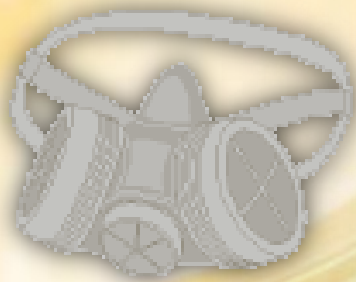
CONTROL OR ELIMINATE THE HAZARD

- Ventilation - use local exhaust
- Use least toxic solvent/chemical possible
- Use personal protective equipment
- Reduce speed or otherwise dampen noise on equipment
- Employees authorized to conduct Lockout/Tagout must shut off and lock-out all power sources, including electrical, mechanical, hydraulic, and pneumatic, before servicing or maintenance activities are performed on equipment
- Do not eat or allow food in work areas

METHODS OF PROTECTION

- Safety Goggles or Glasses
 - Chemical splash goggles – use when handling chemicals
 - Glasses for wood dust, metal shavings
- Gloves
 - Disposable – only use once!
 - Reusable – Heavy duty, clean immediately after use
 - Heat resistant
- Ear Protection
 - Ear plugs
 - Ear muffs

METHODS OF PROTECTION



Half-face respirator



Dust mask

- If using a half-face respirator you must comply with the Respiratory Protection Program
- If using N95/dust mask, user must review and sign “Voluntary User” form

WASH YOUR HANDS!!!

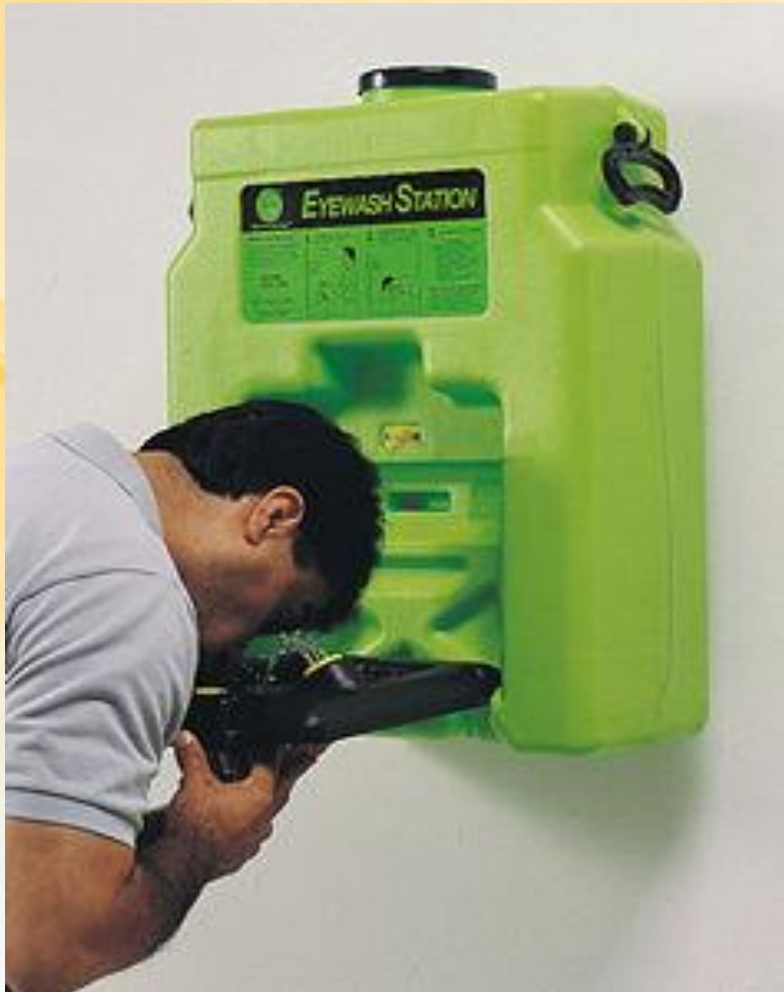
- Use warm water
- Wet both hands and wrists
- Apply liquid soap to palms first
- Lather well, spread lather to back of hands and wrists
- Scrub for at least 15 seconds
- Rinse well and dry completely
- Turn off faucet using disposable towels

EMERGENCY PROCEDURES

- Know where eyewash is located
- Immediately report to health office if exposed
- Contact supervisor for spills greater than one gallon



EYEWASH STATIONS



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EYEWASH STATIONS

- ◎ Eyewashes and emergency showers are secondary items of protection.
- ◎ Plumbed eyewashes & showers are to be flushed and recorded once per week (3 minutes minimum).
- ◎ Portable eyewash stations are to be checked weekly to make sure they are accessible & fluid hasn't been discharged

Note: Life of fluid is approximately two years
Check expiration date!

MACHINE GUARDING

- All hazards associated with a machine shall be guarded
- Machines shall be anchored to the floor or bench top
- Guards should never be taken off or moved aside – be a good role model for students!
- If a guard breaks, take equipment out of service and contact head custodian for repair
- Grinder wheels should have no more than $\frac{1}{4}$ inch space at top and $\frac{1}{8}$ inch space at bottom



HAZARDOUS WASTE

- Must be labeled as “hazardous waste” with a descriptive name and date
- Paper towels, rags used for stains may be thrown in trash
- Paper towels, rags used for thinners must be disposed of as hazardous waste
- Aerosol cans that are empty may be thrown in trash; if there is any product left in an aerosol can it must be disposed of as hazardous waste
- Latex paint may be thrown in trash if solid (no liquid left)
- Oil-based paints or stains must be disposed of as hazardous waste, regardless of liquid/solid

ELECTRICAL SAFETY

- Do not service equipment unless it is locked out first.
- Only head custodians are allowed to conduct lockout/tagout on hard-wired equipment
- Electrical cords should never be repaired, especially with duct tape
- Frayed or worn cords should be replaced
- Equipment should have a 3-prong (grounded) plug or be double insulated
- Use the left hand rule when opening panels and operating disconnects



COMPRESSED GASES



- Gas cylinders should be labeled with contents and whether empty/full
- Gas cylinders should be chained to the wall (unlike one in picture)
- Fuel (acetylene) and oxygen cylinders are to be stored at least 20 feet apart, or with a fire rated wall in between them, and away from heat sources or combustible materials, unless being used

WELDING HAZARDS

- Use proper gloves, apron, and goggles/face mask
- Always weld behind a curtain or behind closed doors (not in front of others)
- Supervision of students while welding is a must
- Please let your supervisor know if you do not have proper personal protective equipment



BBP – INFECTIOUS AGENTS

- BBP - Infectious Agents are hazards that, when introduced into the body, can cause sickness, disease, or death.
- The common cold, influenza, and head lice are examples of infectious agents. Others include HIV, Hepatitis B & C.
- These agents can be transmitted through contact with bodily fluids, human waste, personal items, and ordinary human contact.
- The district surveyed to identify those employees routinely exposed to blood and body fluids and supports those employees under the *Exposure Control Plan for Bloodborne Pathogens*. Potentially all employees could be exposed.
- The designated staff: Custodians are the school's designated employees trained to respond to bodily fluid spills.

QUIZ AND QUESTIONS

- Please click on the link below for the Quiz. That will be your documentation of training for this year.

<https://www.surveymonkey.com/s/KLTD3J9>

- If you have any questions throughout the quiz, please contact Rachel Koehler with IEA at 763-315-7900 or email rachel.koehler@ieainstitute.com