

Keep Washington safe and working.



Environmental Health and Safety



*Presentation By:
DOSH Consultation*



Division of Occupational Safety and Health



www.Lni.wa.gov/Safety



1-800-423-7233

Today's Objectives

- Identify some of the most common school hazards
- Understand why they are hazards
- Methods to correct

Our Responsibility for Safety and Health as Professionals

First:

Moral Obligation by the nature of the position.

Second:

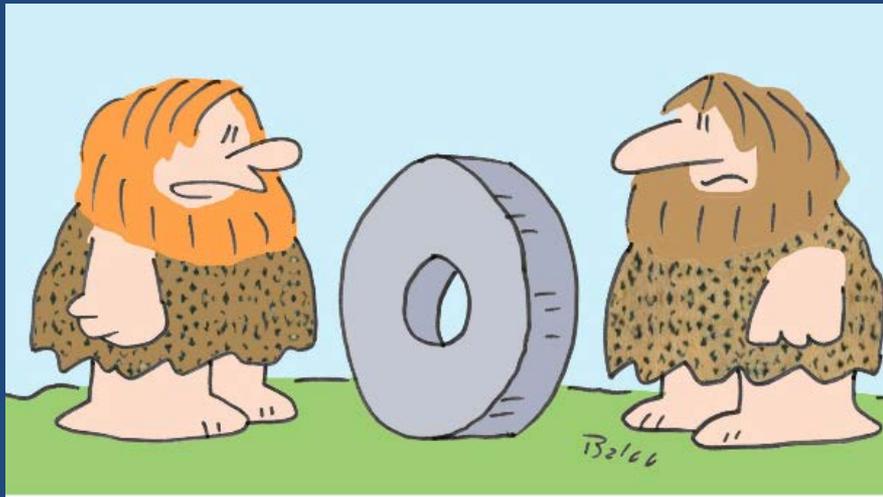
Is safety part of our assigned duties?

Third:

It is the law.

Negligence

Performance of one's duty or responsibility without regard for potential harm to others.



"Sure, it's a great invention,
but what about *liability*?"

Liability

State Of Being Legally
Responsible
Or Under Obligation



BEST

BEST

Elimination

Design it Out

Substitution

Use Something Else

Engineering Controls

Isolation or Guarding

Implement Administrative Controls

Training and Work Scheduling

Personal Protective Equipment (PPE)

LAST RESORT

Control
Effectiveness

Business
Value

Elimination

1. Taking the Safest Approach

- The best way to prevent injuries is to remove the hazard altogether, or keep it isolated, away from workers, so it cannot hurt anyone. This way the workplace itself is safer!
- Removing the hazard can sometimes be the most difficult solution or take the longest time to implement. You may need other solutions to protect you in the meantime.

Substitution

2. Is there a way to remove the hazard?

If not, we can minimize the hazard by using a different product or process.



Engineering

3. If a hazard can't be eliminated or a safer substitute can't be found, then an engineering solution may be the answer.



Administrative Controls

4. What improvement in work practices would help?

- Train workers on the importance of pouring chemicals from a low height to avoid splashing.



Personal Protective Equipment (PPE)

5. What protective clothing or equipment would help?
- Use goggles to prevent any splashes from getting into the eyes.



Safety Committees

- At least as many elected employees as management- selected members
- Committee determines meeting schedules
- Elected chairperson
- Keep meeting minutes and attendance
- Cover specific topics



First Aid



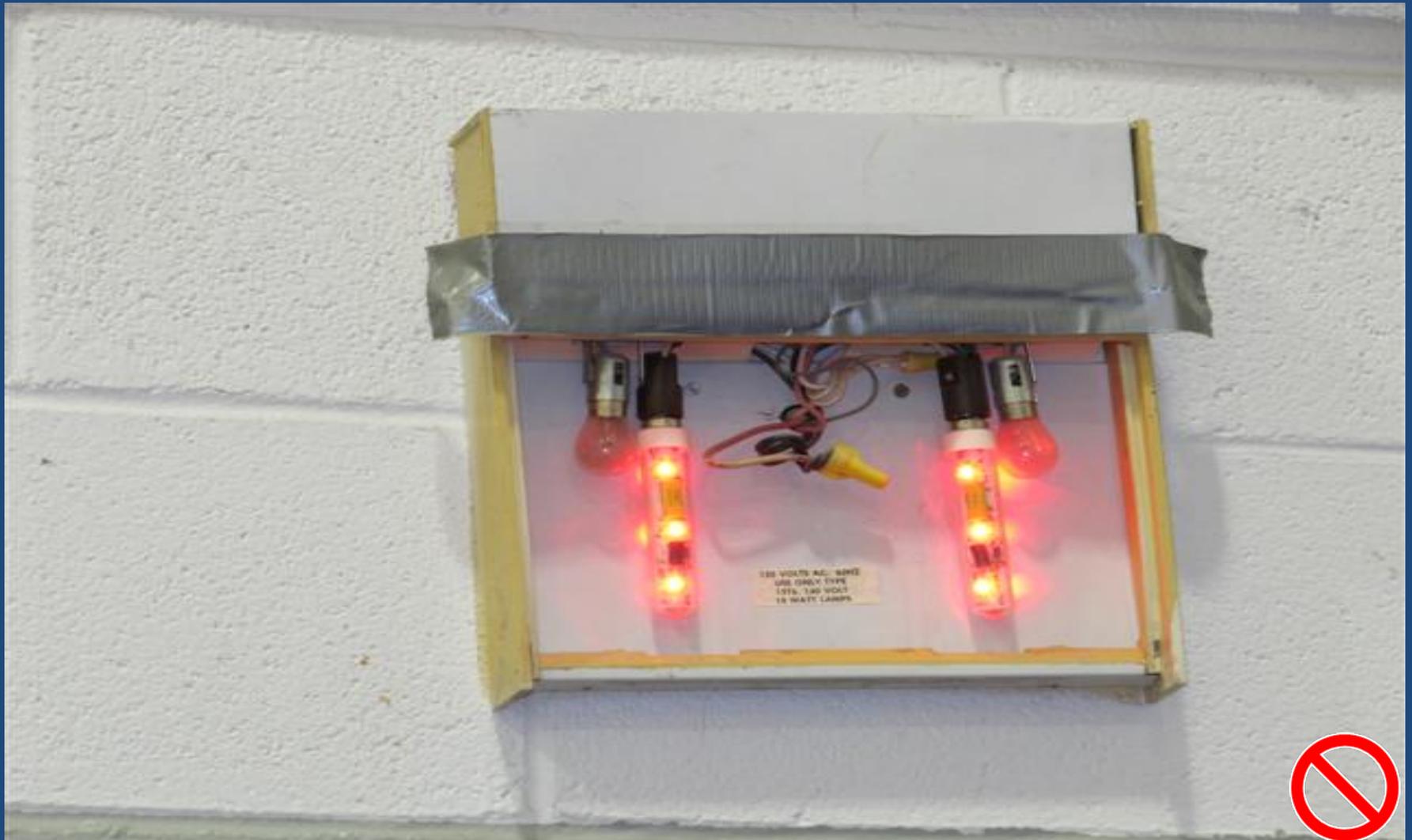
By Name Only

Each employer must have available at all worksites a person or persons holding a valid first-aid certificate.

First-aid supplies easily accessible to all employees



EXIT?

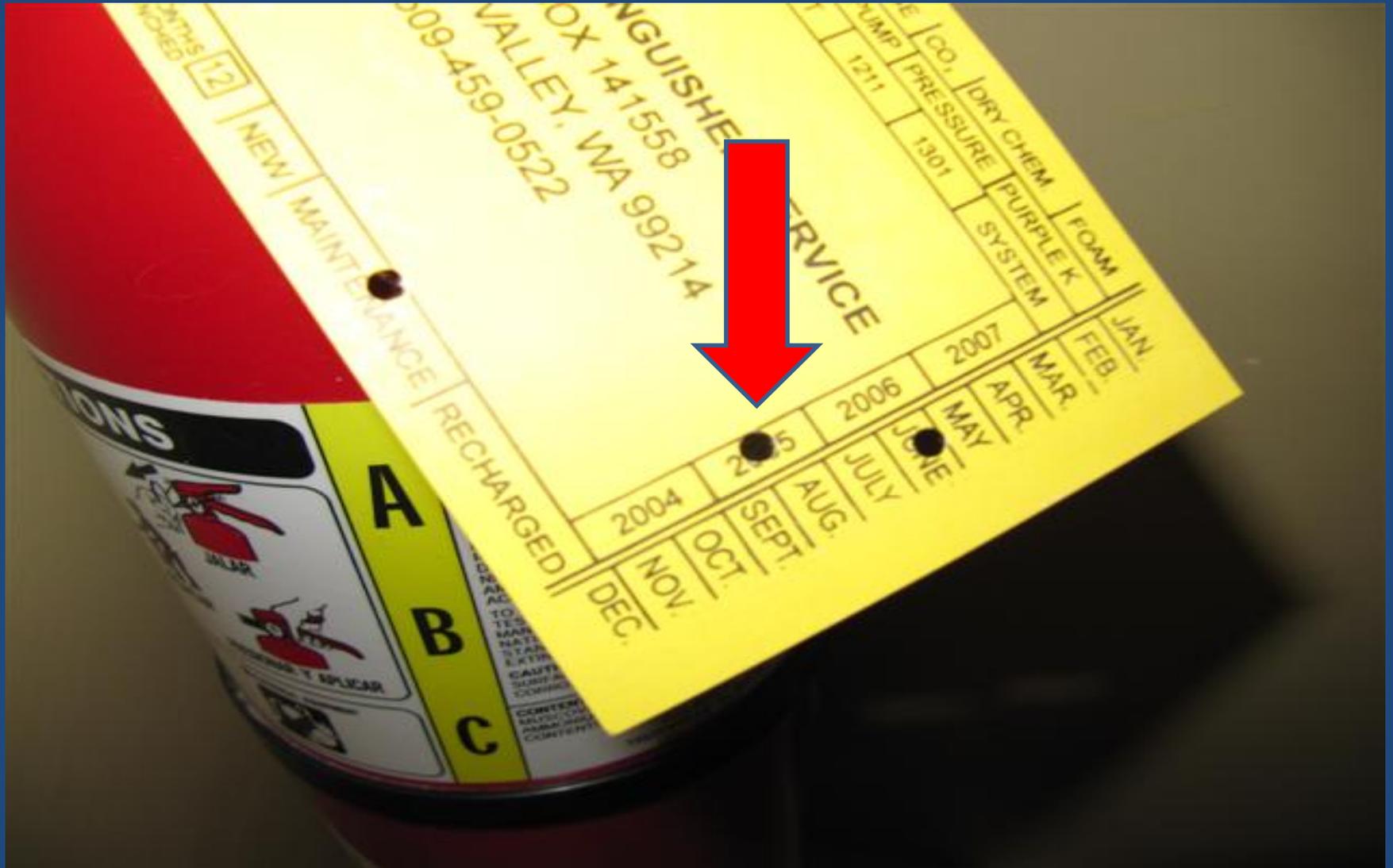


Readily Available?



- Identify Location
- Annual Maintenance
- Monthly Inspection

It's Only Fourteen Years Old



Spontaneous Combustion of Oil Rags

In recent months the Old Salam Fire Rescue has had an increase in residential fire loss attributed to spontaneous combustion of oily rags.

Oil soaked (linseed, stain, paint and vegetable oil) rags that are not stored properly can permit oxidation. Spontaneous combustion can quickly occur igniting the rags and anything else they are near.

It is extremely important to read the label of wood stains and paint products, determining the content of that product and any cautions that might be on the label. Other natural oils such as mineral oil, cottonseed oil, cod and other fish oil present similar problems.

Rags used with these products should be stored by submersing them in a water filled metal container with a fitted lid.



Physical Hazards



Preventing slips, trips, and falls:



Wet, slippery floors are a major cause of slips, trips, and falls. To help prevent accidents:

- Wear safety shoes with non-skid soles
- Keep floors free from water or grease
- Clean floors regularly
- Use slip-resistant waxes on floors
- Clean up spills immediately
- Put up warning signs around spills or wet floors



Preventing Falls from Elevations

- Don't work on an elevated floor or work location without guardrails in place.
- Don't stand on guardrails to gain extra height.
- Don't lean over railings.



Fall Protection Requirements



Debris Removal

Inspection

Maintenance



Don't Fall From It



Ladder Selection and Use



Extension / Straight Ladder Use

Three Items to Remember

1. 3 feet above
2. 3 points of contact
3. Ladder Angle
4:1 or 75 ½ degrees



Slips



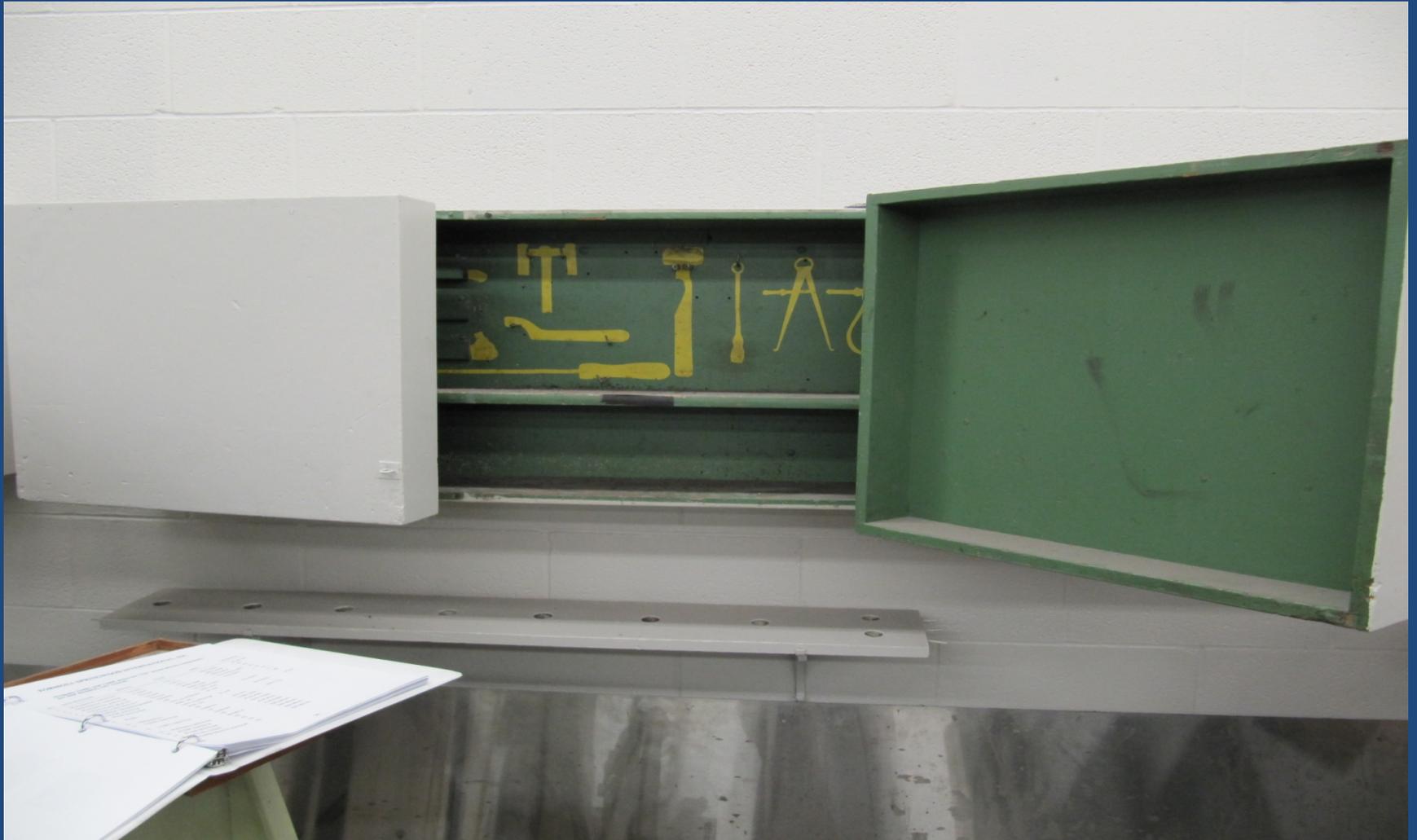
Look For Tripping Hazards



The Maid Comes Tomorrow



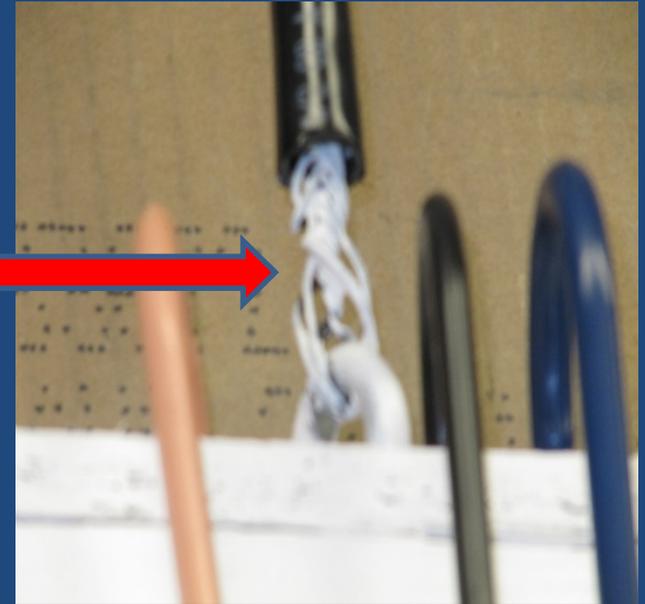
An Attempt



A Place For Everything



Load Limit Of ??????



When Correcting One Hazard Do Not Create Another



Compressed Gas Cylinders Must Be Stored Correctly



Equipment Maintenance and Inspection



The fusible link system automatically closes the cover of the parts cleaner in the event that a fire occurs in the sink work area.

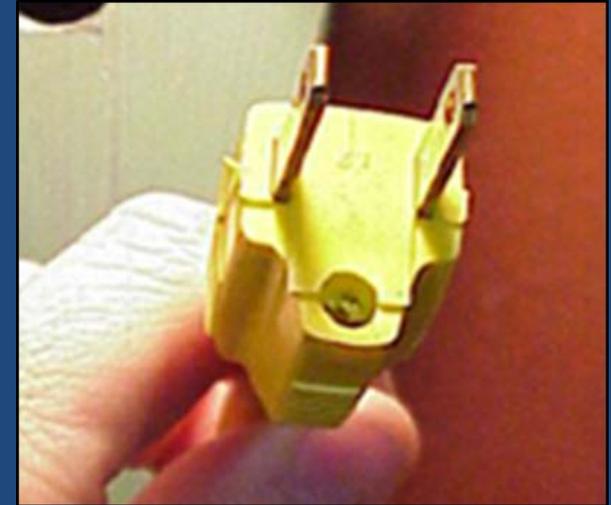
Use Carts to Store and Transfer Supplies

- Carts should have wheel locks.
- Handles that can swing out of the way may be useful for saving space or reducing reach.
- Heavy carts should have brakes.
- Balance loads and keep loads under cart weight restrictions.
- Ensure stack height does not block vision.



Preventing Injuries from Electrical Equipment

- Do not use electric tools in wet conditions or damp locations
- Do not clean electric equipment with flammable or toxic solvents
- Do not carry electrical tools by the power cord
- Do not tie power cords in knots
- Do not plug several power cords into one outlet



Never use a three-prong grounding plug if the ground prong is broken off

Inspect Prior To Use

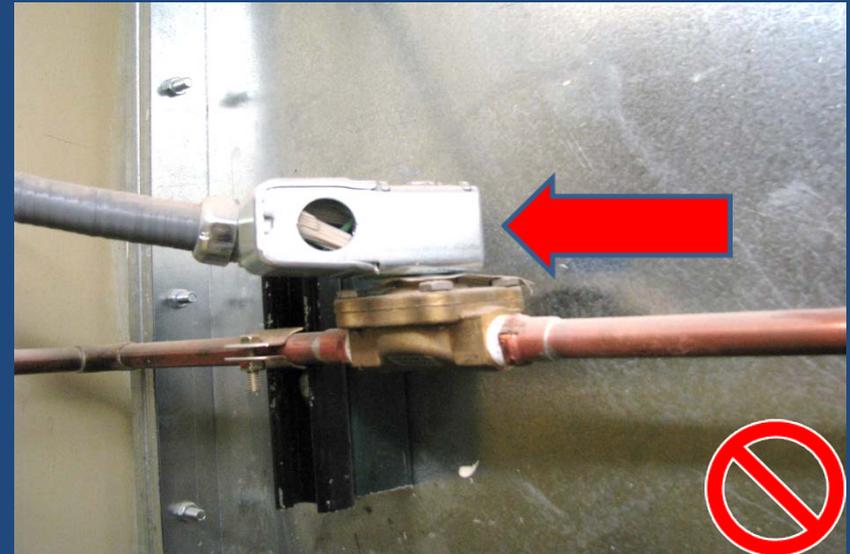
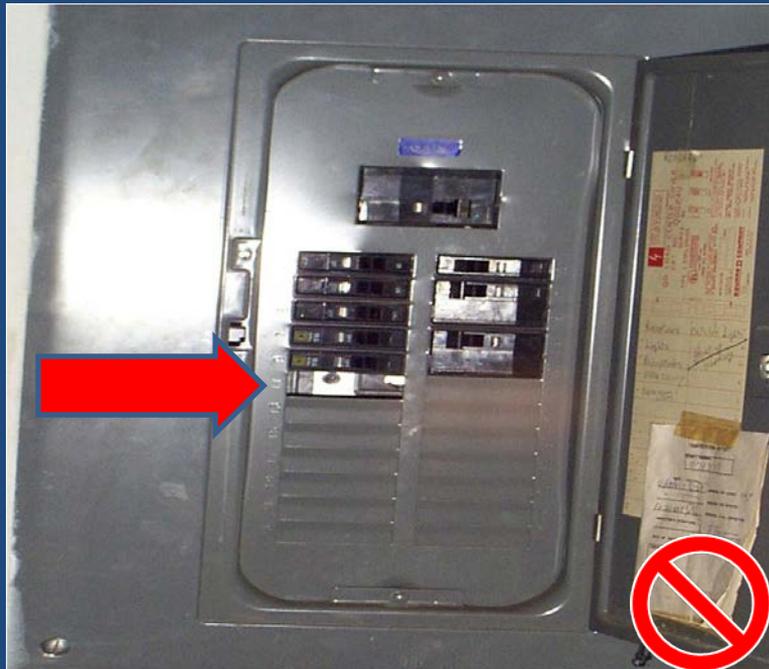


Access To Panel



These Cost A Couple of Bucks

Eliminate Exposure to Live Electrics



Equipment Maintenance and Inspection



They Cost 72 Cents!!



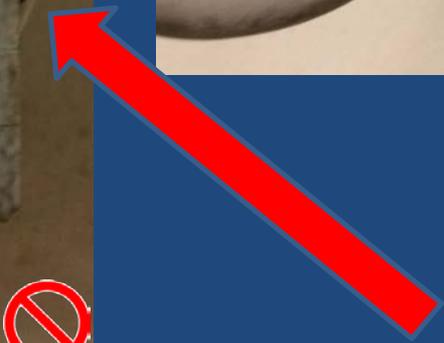
Ungrounded or Open Ground Outlets

Ungrounded outlets are a safety hazard and are in violation of the building and national wiring codes.

They need be made safe immediately.



Improper Installation / Unapproved Use



Neutral wire crushed

Read and Follow the Instructions



Do Not Store or Use Flammables Near the Heater!

Preventing Burns from Hot Equipment



- Do not handle or touch hot (or those that may be hot) articles or surfaces with bare hands
- If needed, wear heat-protective gloves
- Organize your work area to prevent contact with hot objects and flames
- Open hot water faucets slowly to avoid splashes
- Report any faulty equipment to your supervisor

Preventing Injuries from Machinery

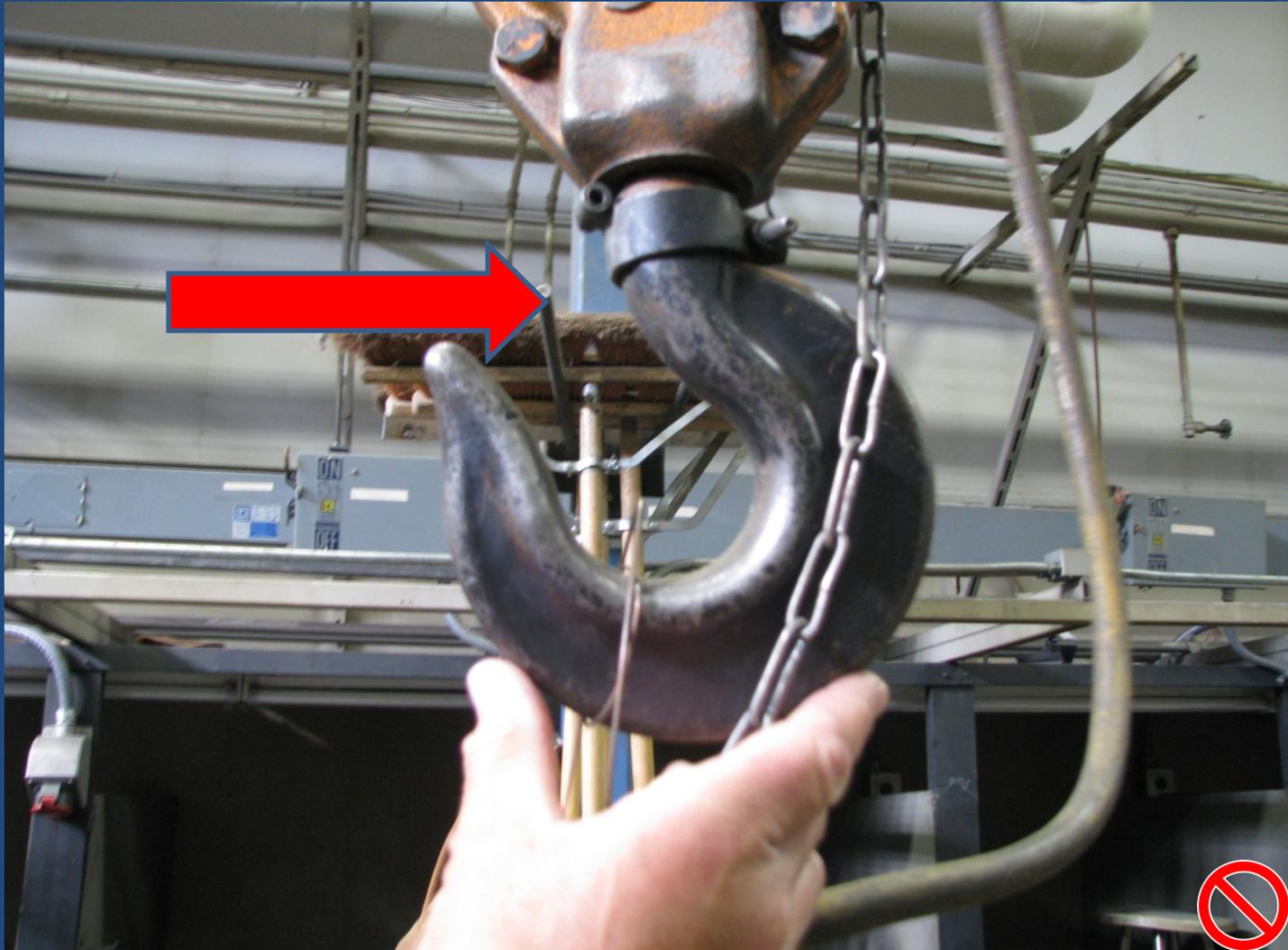


Machinery with rotating or moving parts must have guards.

- **Become familiar with the hazards associated with particular machines.**
- **Do not work with or around machinery in which safeguards have been removed.**
- **Report to you supervisor about a damaged or missing safeguard.**

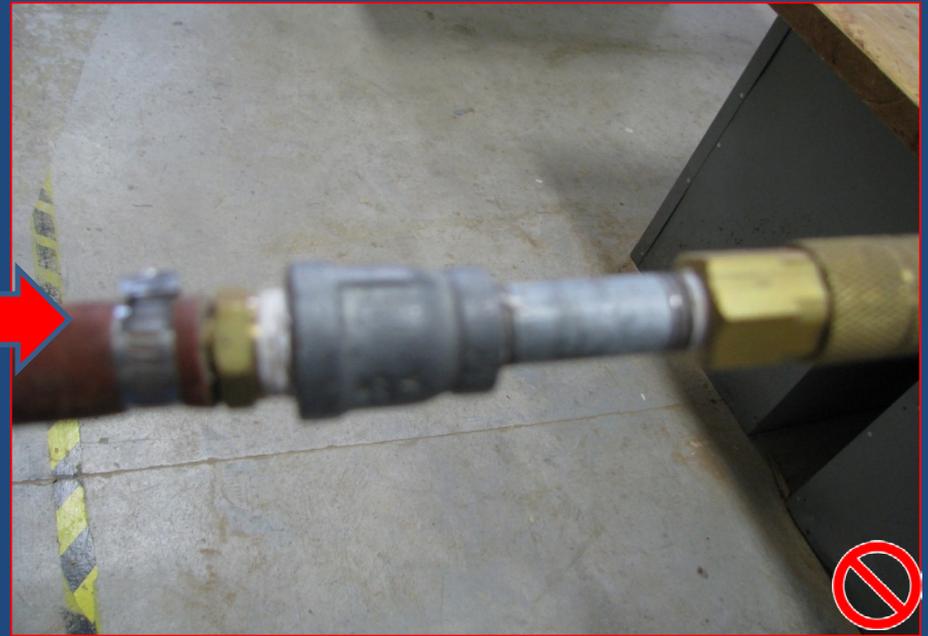


Missing Safety Latch



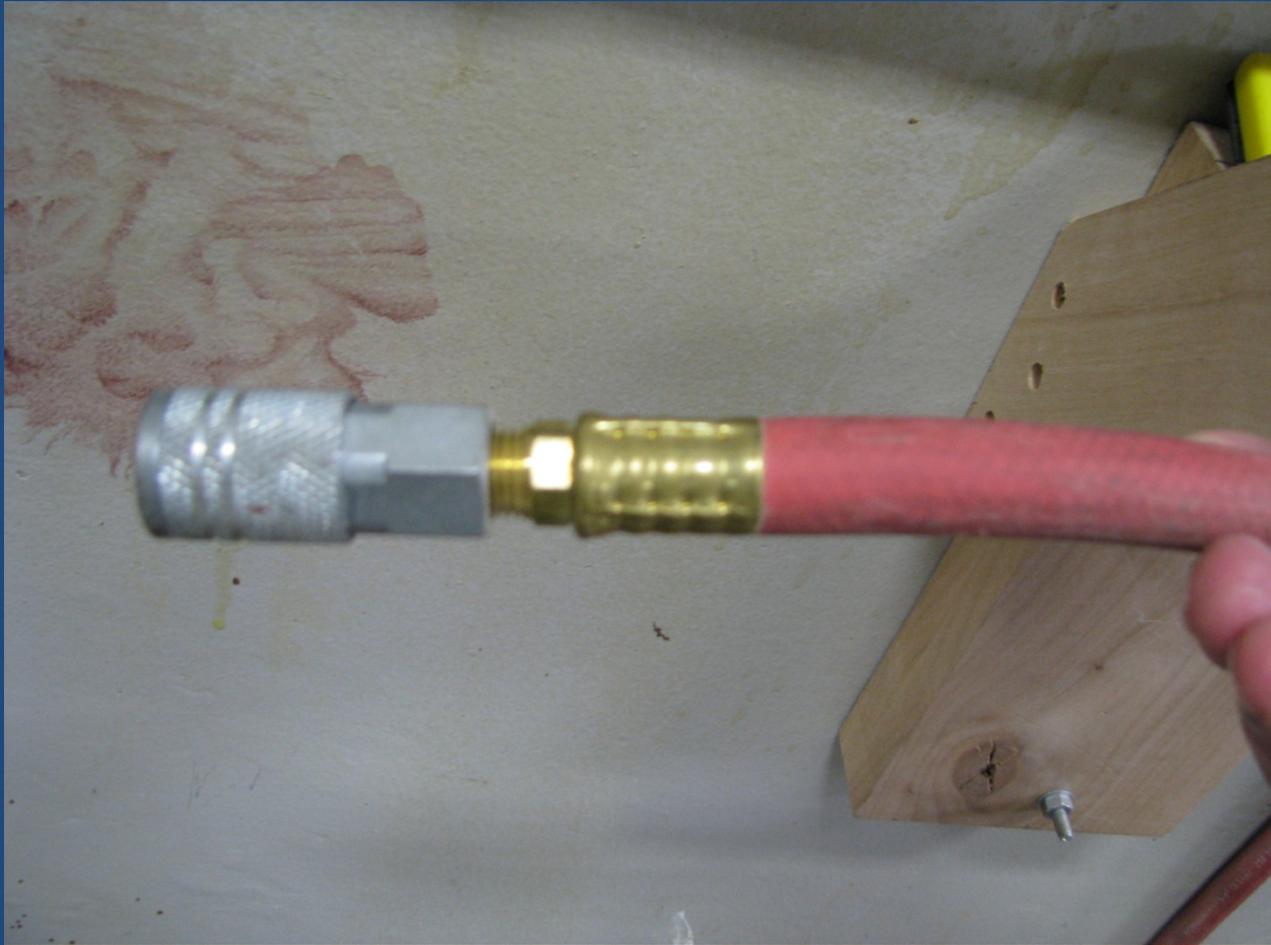
It Works

Use heavy duty clamps and fittings made especially for compressed air hose.



Use only the correct type and size of hose end fittings and connectors.

But This Is More Gooder



Compressed Air



Right Idea?



Tongue guard $\frac{1}{4}$ inch from wheel

Work rest $\frac{1}{8}$ inch from wheel

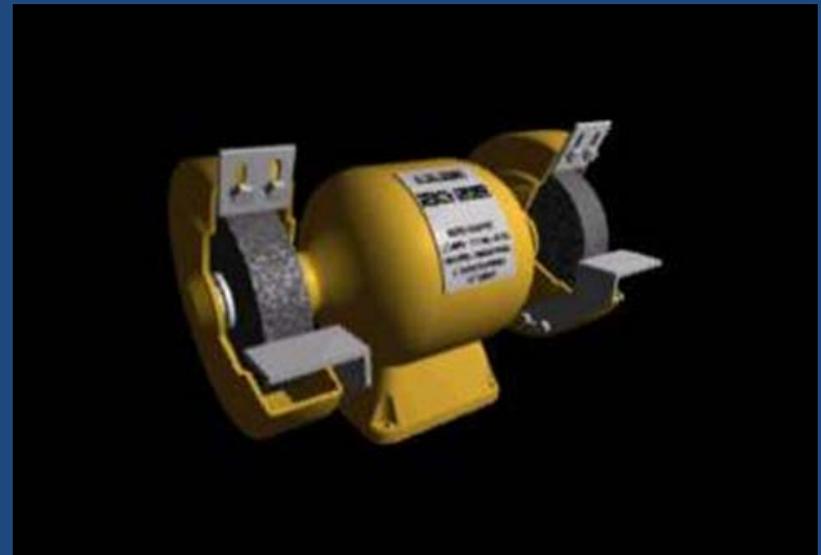
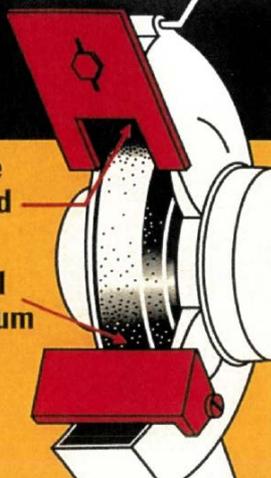
Prevent Accidents

Adjust the distance between the grinding wheel and tongue guard to a $\frac{1}{4}$ inch maximum

and between the grinding wheel and work rest to a $\frac{1}{8}$ inch maximum

Washington State Department of Labor & Industries
Division of Occupational Safety and Health

FSP1-000-000 [04-2008]



Guarding



This Is What You Will Likely See





SawStop

10 9 8 7 6 5 4 3 2 1 0

WARNING ⚠️ ADVERTENCIA ⚠️ DANGER

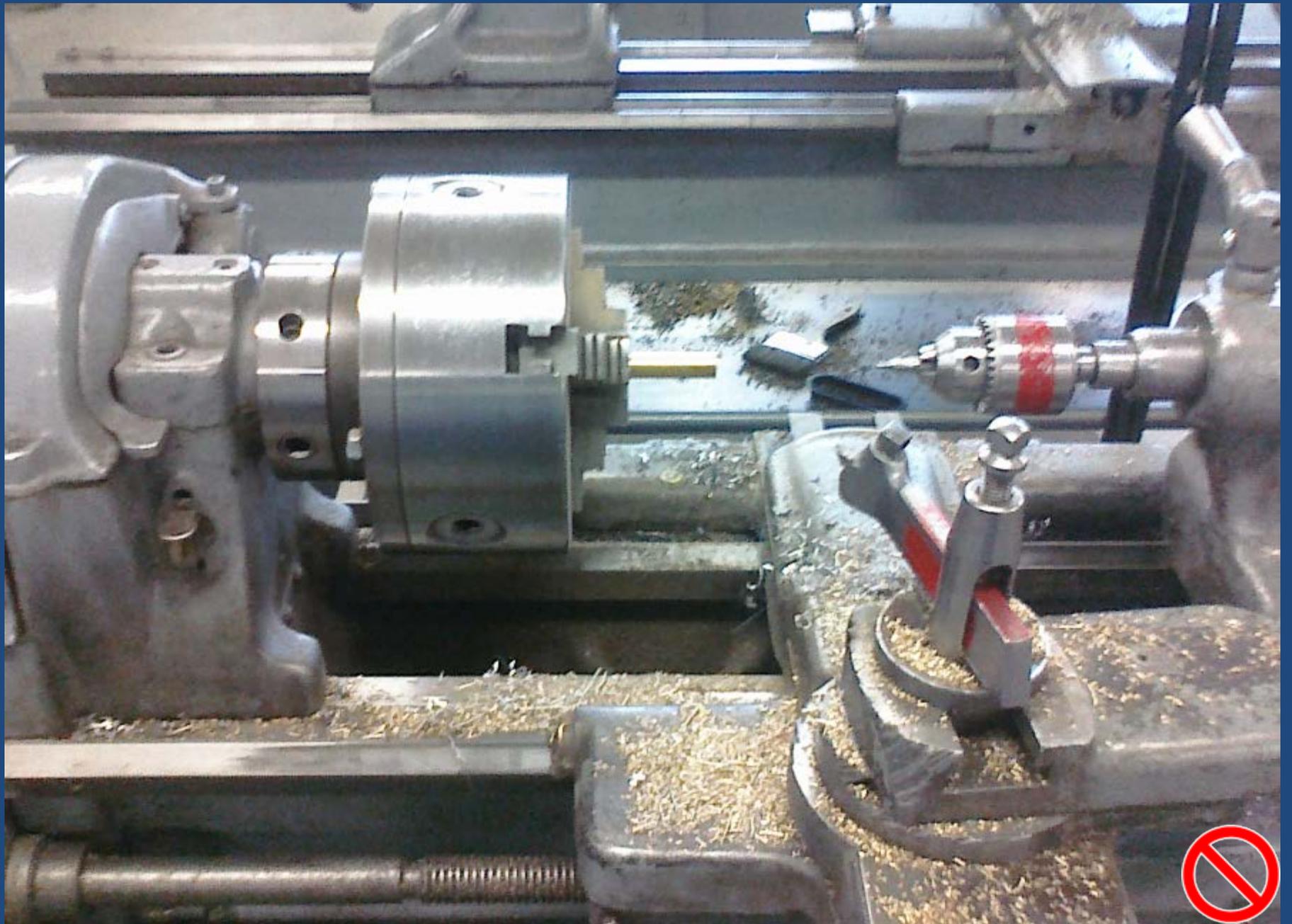
SawStop

Featherboard and push sticks



Guards Installed





Chuck Wrench or Key

This is a potential flying object.

It must be removed once the chuck is adjusted



Lock Out / Tag Out





Confined Space

A space that is all of the following:

(a) Large enough and arranged so an employee could fully enter the space and work.

(b) Has limited or restricted entry or exit.

Examples of spaces with limited or restricted entry are tanks, vessels, silos, storage bins, hoppers, vaults, excavations, and pits.

(c) Not primarily designed for continuous human occupancy.

Confined Space Identification

You must identify all permit-required confined spaces in your workplace.



Permit Required or Alternate Entry



Break



THE NEW YORK COLLECTION

Preventing Hearing Loss from Noisy Machinery or Cleaning Equipment

- Turn off noisy machinery when not in use.
- Wear hearing protection provide by your employer when operating or working in a noisy environment or around machinery or equipment.



When is Noise Too Loud?

Noise is measured in units called “**decibels**” or “**dB**”

If two people 3 feet apart must shout to be heard, the background noise is too loud (above 85 decibels).



The risk of hearing loss increases dramatically as noise levels increase.

Types of Hearing Protection

There are three types of hearing protection – ear muffs, earplugs and ear caps.

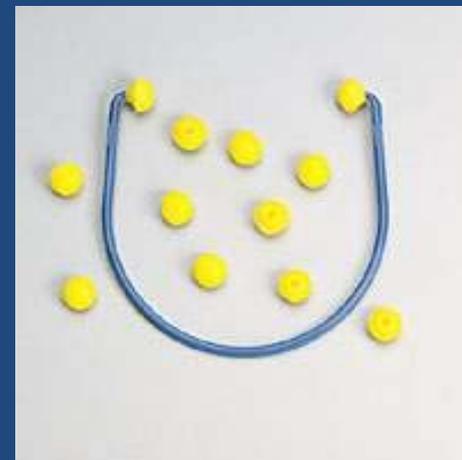
Ear muffs and earplugs provide about equal protection, ear caps somewhat less.



earmuffs



earplugs



ear caps



Hearing Aids Are Not Hearing Protection

Hearing aids do not block out enough sound for most workplace noise.

Some hearing aids can actually increase the noise level at the ear.

Just turning off the hearing aids will not prevent further hearing loss from noise exposure.



Photo by Birmingham Museum in Creative Commons

Portable Radios/CD Players/iPods

Most of these devices do not provide protection from noise.

The earphones are not earmuffs and the music only adds to background other noise.

The music level in the earphones themselves can exceed 85 decibels and cause hearing loss.

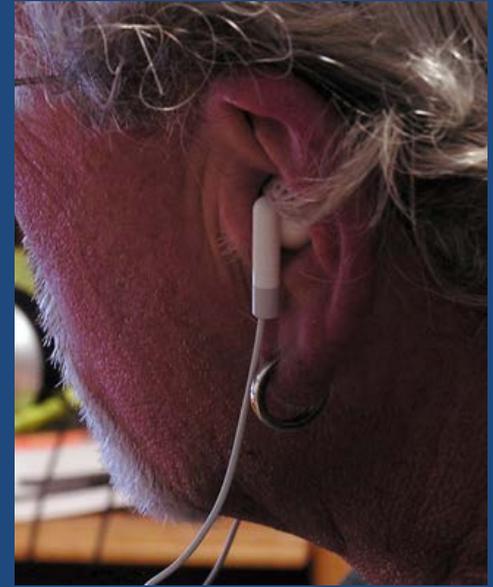


Photo by Ron Lute in Creative Commons

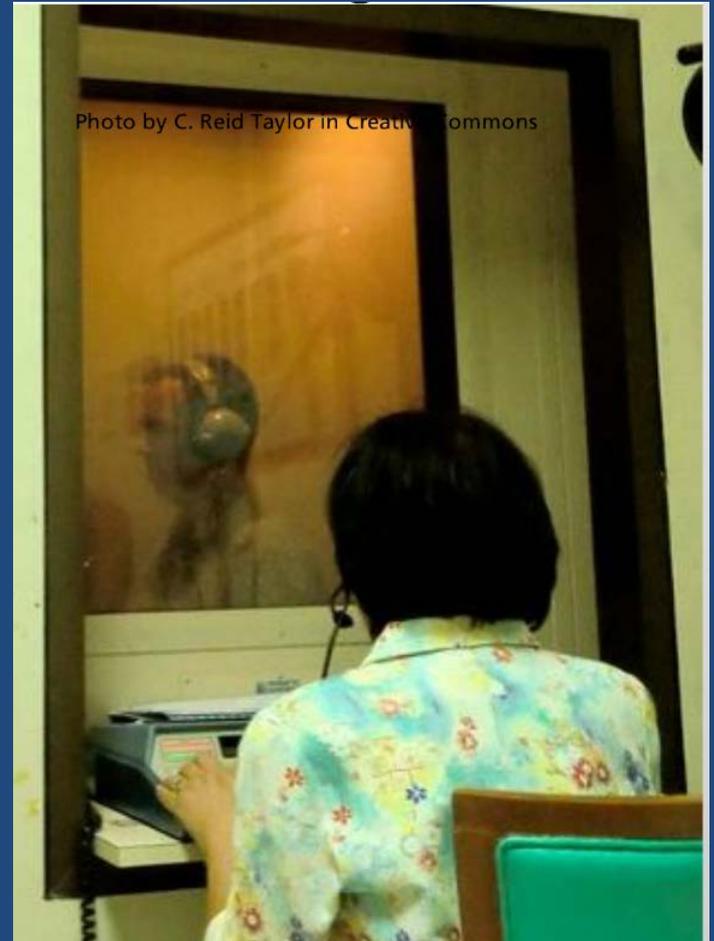


Smart Muffs

Audiometric Testing

“Audiometric testing” is the same as a hearing test.

It is required for all employees exposed to excessive noise.



Hazard Communication (HAZCOM)

Designed to inform employees of the hazards of chemicals in their workplace using a globally harmonized system (GHS).

HAZCOM: Elements

- Make a list of the hazardous chemicals present in the workplace.
- Obtain an SDS for each chemical.
- Develop a written Chemical Hazard Communication Program: (keep in a location known to employees).
- Train employees: (initially & as conditions change).



Train Employees

- To detect the presence or release of a hazardous chemical
- Physical and health hazards of the chemical
 - skin contact, inhalation, absorption
- How to protect against the listed hazards of the chemical?
PPE, Ventilation, etc...
 - (Chemical information is on Labels & SDS)



Health Effects of Chemicals



Many chemicals can hurt your body. With some chemicals, a small amount can harm you. With other chemicals, it takes a much larger amount to harm you.

Many chemicals may have an:

- Action Level
- Permissible Exposure Limit (PEL)
- Medical Surveillance

Safety Data Sheet (SDS), formerly MSDS's

Required to keep SDS's
of chemicals from the
vendor and train
employees on chemical
use (30 years)

Standardized under
Global Harmonization
Rules (GHS)

The 16 Sections of an SDS

SDSs must include information in the following sections:



SECTION 1 IDENTIFICATION

Chemical name, recommended uses and supplier contact information.



SECTION 2 HAZARD(S) IDENTIFICATION

Hazards of the chemical and the appropriate warning information.



SECTION 3 COMPOSITION / INFORMATION OF INGREDIENTS

Ingredients contained in the products.



SECTION 4 FIRST-AID MEASURES

Hazards of the chemical and the appropriate warning information.



SECTION 5 FIRE-FIGHTING MEASURES

Recommendations for fighting a fire caused by the chemical.



SECTION 6 ACCIDENTAL RELEASE MEASURES

Appropriate response to spills, leaks or releases, including containment and cleanup practices.



SECTION 7 HANDLING AND STORAGE

Safe handling practices and conditions for safe storage of the chemical.



SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits, engineering controls and personal protective measures to minimize worker exposure.



SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties associated with the substance or mixture.



SECTION 10 STABILITY AND REACTIVITY

Reactivity hazards and stability information.



SECTION 11 TOXICOLOGY INFORMATION

Information regarding toxicological and health effects, or an indication that such data is unavailable.



SECTION 12 ECOLOGICAL INFORMATION

Environmental impact of the chemical if it were released in to the environment.



SECTION 13 DISPOSAL CONSIDERATIONS

Proper disposal and recycling, or reclamation and safe handling practices.



SECTION 14 TRANSPORT INFORMATION

Classification information for shipping and transporting.



SECTION 15 REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product that is not indicated anywhere else on the SDS.



SECTION 16 OTHER INFORMATION

When the SDS was prepared or when the last known revision was made.

Pictograms

Exploding Bomb



Explosives
Self-Reactives
Organic Peroxides

Flame Over Circle



Oxidizers

Gas Cylinder



Gases Under Pressure

Skull & Crossbones



Acute Toxicity (fatal or toxic)

Corrosion



Skin Corrosion/Burns
Eye Damage
Corrosive to Metals

Health Hazard



Carcinogen
Mutagenicity
Reproductive Toxicity
Respiratory Sensitizer
Target Organ Toxicity
Aspiration Toxicity

Exclamation Mark



Irritant (skin and eye)
Skin Sensitizer
Acute Toxicity
Narcotic Effects
Respiratory Tract Irritant

Flame



Flammables
Pyrophorics
Self-Heating
Emits Flammable Gas
Self-Reactives
Organic Peroxides

Container Labeling

The Basic Parts of A GHS-Compliant Label

1 → **n-Propyl Alcohol**

UN No. 1274
CAS No. 71-23-8

2 → **DANGER**

3 → Highly flammable liquid and vapor. Causes serious eye damage. May cause drowsiness and dizziness.

4 → Keep away from heat/sparks/open flames/hot surfaces. No smoking. Avoid breathing fumes/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present. Continue rinsing.

Fill Weight: 18.65 lbs. Lot Number: B56754434
Gross Weight: 20 lbs. Fill Date: 6/21/2013
Expiration Date: 6/21/2020

5 → Acme Chemical Company • 711 Roadrunner St. • Chicago, IL 60601 USA • www.acmechem.com • 123-444-5567

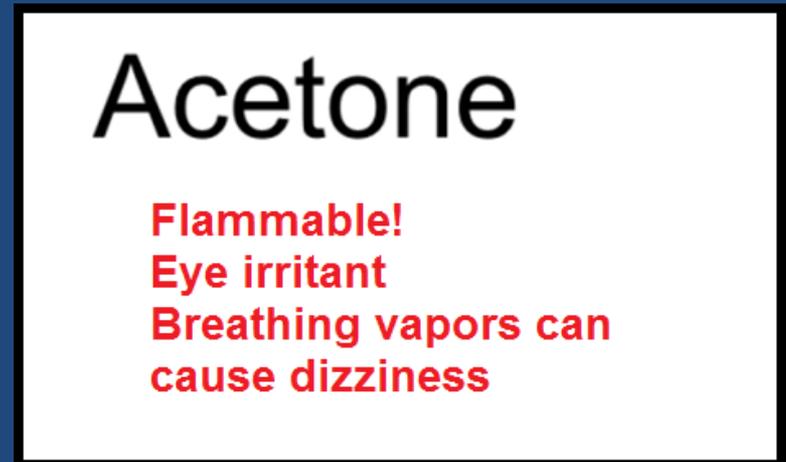
See SDS for further information.

6 → 

1. **Product Identifier** - Should match the product identifier on the Safety Data Sheet.
2. **Signal Word** - Either use "Danger" (severe) or "Warning" (less severe)
3. **Hazard Statements** - A phrase assigned to a hazard class that describes the nature of the product's hazards
4. **Precautionary Statements** - Describes recommended measures to minimize or prevent adverse effects resulting from exposure.
5. **Supplier Identification** - The name, address and telephone number of the manufacturer or supplier.
6. **Pictograms** - Graphical symbols intended to convey specific hazard information visually.

Workplace Secondary Label Example

- Identifier and pictograms, or
- Identifier and hazard statements, or
- Both



Health Effects of Chemicals

Many tasks or processes may alter a chemical.

Chipping

Grinding

Sawing

Welding

These activities may release chemicals into the air.



MYSTERY JUICE?????

Containers that could be mistaken as a beverage or food should not be used as secondary container.





Ideal Storage Area Set-Up

NA, LI

Acids

Bases

Oxidizers

Room Should Have:

- Eye Wash
- Safety Shower
- Emergency Phone
- Fire Extinguisher

Dry
Chemicals

Spill
Materials

Metal Salts

Nitrates

Flammables
Cabinet

Chemicals Can Enter Your Body In Four Main Ways:

Breathing (Inhalation)



Skin



Swallowing



Injection



Eyes.....

Your eyes can be seriously injured by chemicals.

Chemicals may splash into your eyes, or you may accidentally touch your eyes when you have chemicals on your hands.

Chemical vapors in the air can also harm your eyes.

If you use chemicals overhead, chemicals can drip into your eyes.



Emergency Eye Wash





Sanitary



Unobstructed Access

**Documented Weekly
Activation**



Protecting Yourself

- **Wear proper PPE (personal protective equipment) as recommended on the label and/or SDS when using chemicals**
- **Always wash your hands thoroughly after using a chemical**
- **Locate nearest eyewash station or emergency shower before handling chemicals**
- **Work with your supervisor to properly dispose of hazardous materials**
- **Know your spill procedures and emergency response plan**



Asbestos Exposure

Exposure in general industry:

- manufacture of asbestos products
- automotive brake and clutch repair
- Maintenance and custodial work



Some Terms: “ACM” and “PACM”

Asbestos Containing Material

Any material containing more than 1% asbestos by weight.



Presumed Asbestos Containing Material

Installed prior to
1981

- Surfacing materials
- Thermal System Insulation
- Flooring



Must be handled as ACM unless proved otherwise

Many uses of asbestos have been banned under EPA and Consumer Product Safety Commission regulations. However, some materials where asbestos fibers are generally well bound in the materials were not banned.

Previously installed products still pose a hazard to workers. Asbestos fibers can be released during repair work, demolition, and renovation of older buildings and structures containing ACM.

Examples of Uses of Asbestos



Sprayed-on fireproofing material

These products may be found in homes and buildings constructed before 1981.



Sheet vinyl containing asbestos



Vinyl asbestos flooring

Uses of Asbestos

Asbestos has been used for centuries, but greatly increased during and after World War II in ship insulation and the following:



Asbestos insulated pipe

- Pipe insulation
- Surfacing insulating materials
- Reinforcement of materials
- Fireproofing
- Acoustic and decorative plaster
- Textiles



Asbestos insulated boiler

Use has greatly declined since the late 1970's

Asbestos Roofing Material



ASBESTOS CEMENT
ROOF SHINGLES AND
FELT (TAR PAPER)



used from
1920's to
1970's

Asbestos in Joint Compound and Plaster

Some joint compound contained up to 5% asbestos



Joint compound



Plaster with asbestos

See WRD 23.30 for guidance on employee exposure to joint compounds

Custodial/Light Maintenance Work

Housekeeping and building maintenance activities may expose workers to asbestos fibers if ACM/PACM is disturbed.

Activities of concern:

- sweeping
- vacuuming
- cleaning
- changing lights



Damaged asbestos pipe insulation



Asbestos debris on floor

- Materials of concern:
 - vinyl asbestos tile
 - popcorn ceiling
 - exposed piping
 - exposed fireproofing

Custodial/Light Maintenance Work



Use only a HEPA-filtered vacuum to clean up asbestos debris



DO:

Dust with a damp cloth



Wet mop floors

Some Asbestos-Containing Materials*

- Cement Pipes
- Cement Wallboard
- Cement Siding
- Asphalt Floor Tile
- Vinyl Floor Tile
- Vinyl Sheet Flooring
- Flooring Backing
- Construction Mastics (floor tile, carpet, ceiling tile, etc.)
- Acoustical Plaster
- Decorative Plaster
- Textured Paints/Coatings
- Ceiling Tiles and Lay-in Panels
- Spray-Applied Insulation
- Blown-in Insulation
- Fireproofing Materials
- Taping Compounds (thermal)
- Packing Materials (for wall/floor penetrations)
- High Temperature Gaskets
- Laboratory Hoods/Table Tops
- Laboratory Gloves
- Fire Blankets
- Fire Curtains

(This list does not include every product/material that may contain asbestos. It is intended as a general guide to show which types of materials may contain asbestos.)

* Source: EPA

Some Asbestos-Containing Materials

(Continued)

- Elevator Equipment Panels
- Elevator Brake Shoes
- HVAC Duct Insulation
- Boiler Insulation
- Breaching Insulation
- Ductwork Flexible Fabric Connections
- Cooling Towers
- Pipe Insulation (corrugated air-cell, block, etc.)
- Heating and Electrical Ducts
- Electrical Panel Partitions
- Electrical Cloth
- Electric Wiring Insulation
- Chalkboards
- Roofing Shingles
- Roofing Felt
- Base Flashing
- Thermal Paper Products
- Fire Doors
- Caulking/Putties
- Adhesives
- Wallboard
- Joint Compounds
- Vinyl Wall Coverings
- Spackling Compounds

Asbestos-related Diseases

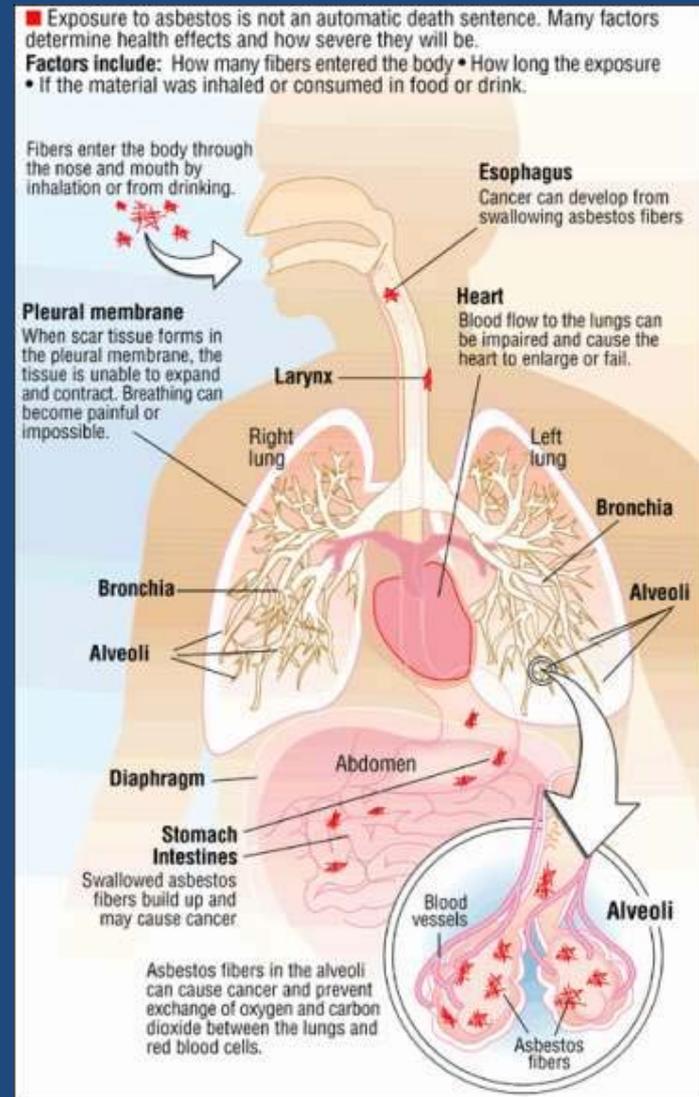
Asbestosis

Mesothelioma

Lung Cancer

Other cancers

- Usually symptoms take 15 to 30 years or more to develop.
- Health effects from asbestos exposure may continue to progress even after exposure is stopped.



"Good Faith" Inspection/Survey

Required for all construction and maintenance in buildings that may contain asbestos:

- Must be done by an EPA-accredited AHERA building inspector
- documented written report
- not required if assumed and treated as asbestos

- * Possible fines of \$250/day if not done or poorly done
- * Both building owner and contractor can be cited!



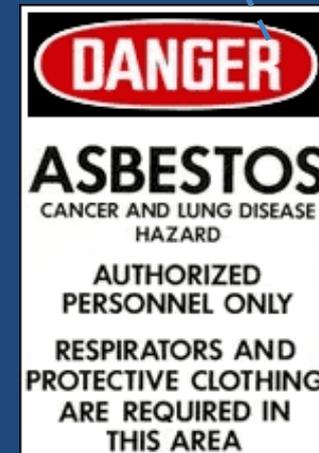
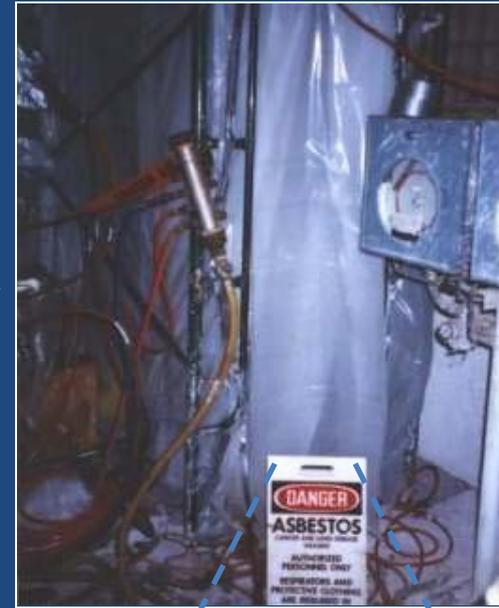
Communication of Hazards

Warning Signs

- for regulated areas
- visible before entering

Warning Labels

- attached to all products and their containers



Entrance to regulated area

Special Chemical Hazards: Formaldehyde

Applies to occupational exposure to formaldehyde including formaldehyde gas, its solutions (formalin), and materials that release formaldehyde

-Acute Exposure:
eye & respiratory irritation, can be fatal if ingested or inhale too much

-Long-Term Exposure: respiratory irritation, dermatitis, cancer



Formaldehyde is often labeled:

- Formalin
- Methylene oxide
- Paraform
- Formic aldehyde
- Methanal
- Oxomethane
- Oxomethylene
- Timonacic acid
- Thiazolidinecarboxylic acid



Formaldehyde Requirements:

Employers must provide:

- Emergency showers in the immediate work areas where skin contact to solutions of $\geq 1\%$ of formaldehyde could occur.
- Emergency eye wash in the immediate work area where an eye contact to solutions of $\geq 0.1\%$ of formaldehyde could occur.
- Personal Protective Equipment (PPE)



Additional Employer Requirements

Must have a housekeeping program to detect leaks and spills



Training:

- At the time of initial assignment to a work area with formaldehyde exposure
- Whenever there is a new exposure to formaldehyde in the work area
- At least every 12 months after initial training

Health Hazards of Lead

Lead is hazardous to your health if it gets in your body. Here's what it can cause:

Headaches, tiredness and insomnia

Loss of appetite & stomach pain

Pain, weakness or twitching in your muscles

Birth defects

Kidney damage

Permanent brain and nerve damage



Health Hazards of Lead

Is there a safe amount of lead?

There is no real safe amount of lead, but there are levels that cannot be legally exceeded. This is called the “permissible exposure limit” or **PEL**.

In the air: **no more than 50 micrograms per cubic meter**

In your blood: **no more than 40 micrograms per deciliter**.



Both these limits are in the OSHA regulations on lead.

How Can Lead Get In Your Body?

You can get lead into your body by:

Inhaling lead dust or lead spray paint,

Inhaling lead fumes from welding or burning lead paint,

Swallowing lead dust on your hands from eating, drinking or smoking.



Some Jobs Where You Could be Exposed to Lead

Removing lead-based paint on old buildings or houses,



Grinding or sandblasting lead paint on metal structures,



Cutting or removing lead pipe in old buildings,



Using solder that contains lead.



Engineering Controls

Isolate lead operations within the building or confined areas using ventilation



Local exhaust ventilation



Grinders and sanders with exhaust ventilation attached



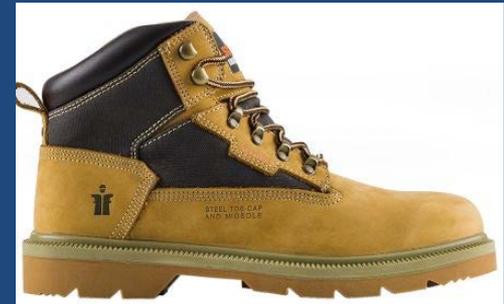
OSHA photo

What PPE is needed?

coveralls



work shoes



gloves



respirator



Work Practices to Reduce Lead Exposure

There are several ways you can reduce your lead exposure:

Always wear your respirator in the areas where it is required,

Don't eat, drink or smoke in the area where there is lead,

When you take a break, wash your hands before eating, drinking or smoking.



Work Practices to Reduce Lead Exposure

Use separate work clothing,



and boots,



Keep your street clothing in a
clean place,



Don't wear your work clothing
or boots home,

Launder clothing at work.



Work Practices That Reduce Lead Exposure

Don't remove dust by blowing down or shaking out your clothing.



Take a shower or wash your hands & face at the end of the shift when required.



What are some other work practices?

Don't dry sweep or blow down dust containing lead,



Use a high-efficiency vacuum to clean up lead dust.



Use water when grinding, sanding or cutting objects containing lead,



Other Methods Of Controlling Lead Dust

Natural or exhaust ventilation can reduce lead levels in buildings or confined areas.



or



Exhaust fan

Some grinders and sanders have exhaust ventilation attached.





Silica

it's more than just dust



What Is Silica?

Silica (quartz) is found naturally in almost all rock, gravel, sand and soil.



It is also found in concrete products, bricks & some stone countertops.



It is sometimes found in sand-blasting (abrasive blasting) grit and is called “silica sand”.



Inhaled Silica Dust Scars The Lungs

A lung disease called “silicosis” is caused by breathing dust containing silica.

The dust causes “fibrosis” or scar tissue in the lungs.

This reduces the lung’s ability to extract oxygen from the air.

There is no cure.



Yale Rosen in Creative Commons

A Tiny Bit Of Silica Dust Can Cause Lung Damage



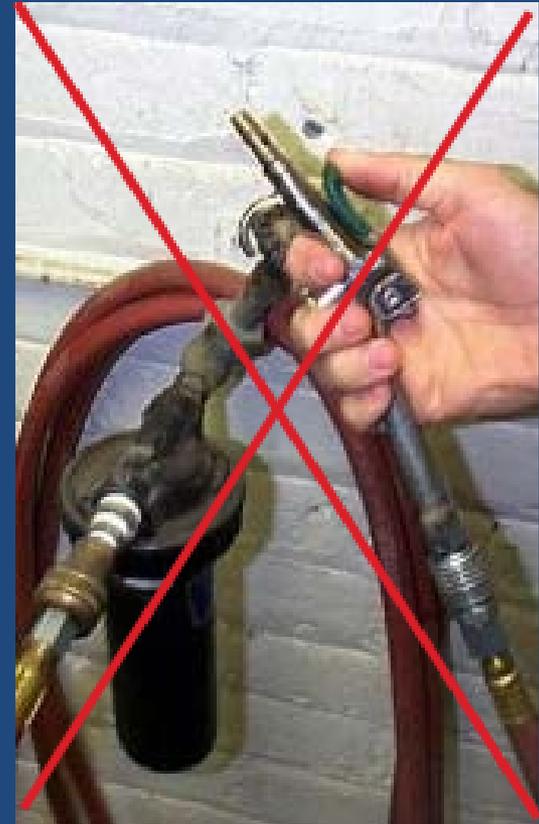
Lung damage will start if you inhale the amount of dust shown next to the penny in 8 hours

Don't Dry Sweep Or Use Compressed Air On Concrete



Elcosh photo

**These activities
create too much
dust**



OSHA photo

Biological Hazards

- Blood and body fluids
- Pathogens
 - Viruses
 - Bacteria
 - Fungi
 - Parasites
- Rodents & rodent droppings
- Insects



Bloodborne Pathogens

Universal Precautions: treat all human blood and body fluids as if infected with BBP.

Bacterial infections

Tuberculosis
Streptococcal infections
Gastrointestinal infections
Meningitis and septicemia
produced by meningococcus

Viral infections

Gastrointestinal infections
Creutzfeldt-Jakob disease (“mad cow”
disease)
Hepatitis B
Hepatitis C
HIV infection
Hemorrhagic fever

Bloodborne Pathogens Standard

- **Develop a written exposure plan**
 - **Have a plan to respond to exposure incidents**
 - **Review plan annually**
 - **Audit safe sharps use**
- **Provide training**
 - **Initially**
 - **Annually**
- **Provide hepatitis B vaccination**
- **Control employee exposure**
- **Provide PPE**
- **Respond to exposure incidents**
- **Keep medical records**

Written Exposure Control Plan:

- Exposure determination
 - What tasks have exposure
- Exposure controls
 - Safe sharps, PPE
- Training and Hazard Communication
 - Initial
 - Annual
- Hepatitis B Vaccine
 - No Cost
 - Declination
- Post exposure evaluation & follow-up
- Recordkeeping



Hepatitis B Vaccine For Exposed Workers

- Must be provided at no cost to employee
- Three shots at 0, 1, & 6 months
- Effective for 95% of adults
 - Also protects after exposure
- Post-exposure treatment (if not vaccinated)
 - Immune globulin test
 - Begin vaccination series
- If employees decline vaccination, they must sign a “Declination Form”
 - Make vaccine available at later date if desired



Personal Protective Equipment (PPE)

Wear Gloves when:

- you have hand contact with blood, OPIM, mucous membranes or non-intact skin
 - you draw blood, insert an IV or do other vascular access procedures,
 - you handle or touch items or surfaces contaminated with blood or OPIM.
- Remove gloves or other protective clothing before leaving work area.
- Wash hands immediately after gloves are removed or soon as possible if blood or OPIM got on the gloves.



PPE

Splashes to the skin

- Lab coat, Gown, Apron, Scrubs
- Surgical cap or hood
- Shoe cover or boot



Eyes/Face

- Wear either a full face shield or combination of eye protection and mask if splashes, sprays or spatters of blood or OPIM to the face could occur.
- Eyewash within 10 seconds/ 50 ft unobstructed travel

Respirators

Last resort to protect employees.

Requirements:

- Respirator Program Administrator
- Fit-testing of respirators to each user
- Written procedures and records
- Proper respirator selection (based on air monitoring)
- Medical evaluation of respirator users
- Respirator maintenance, repair & storage
- Cartridge change out frequencies
- Assured air quality for supplied-air respirators
- Employee training

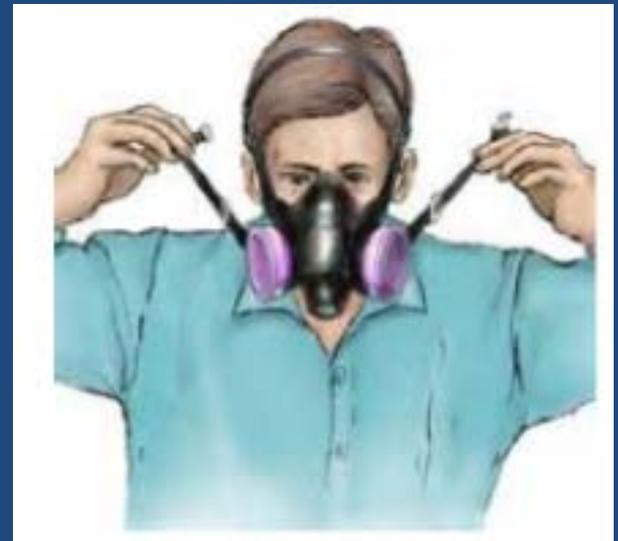


Employees Using Respirators Must Be Trained

Training is required by DOSH for anyone who wears a respirator.

If you don't know how to use a respirator properly, you may think your respirator is providing protection when it is not.

If you have to use a respirator, you will need a medical evaluation also.



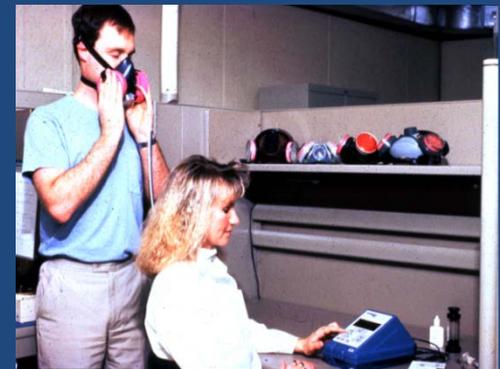
Worksafe BC photo

Tight Fitting Respirators

These type of respirators must fit properly to prevent leaks around the edges.

Fit-testing must be done before first wearing a respirator.

Most beards will cause leaks when wearing a respirator.



Respirators Must Fit Properly

You must have a respirators with cartridges fit-test before you can use them.

You can't have a beard when you wear a tight-fitting respirator.

Your employer will train you on how to use your respirator.



Respirators

Must be used if silica dust can't be controlled with water or ventilation



Air-purifying respirators



Full-face respirator

Types of Respirators for Lead

In some jobs involving lead exposure, you may need a respirator.

The type of respirator worn depends on the amount of lead in the air.

We will provide you with the proper respirator and provide medical evaluations, fit-testing, and additional training



Good Ventilation Is A Must



Resources used for this overview:

WISHA Core Safety Rules (WAC 296-800)

(Basic safety and health rules needed by most employers in Washington State)

<https://www.lni.wa.gov/safety/rules/chapter/800/default.asp>

Additional Safety Rules

(Fall protection, ladders, machine safety, lockout/tagout, electrical, hearing conservation, etc.)

<https://www.lni.wa.gov/Safety/Rules/Find/RuleName/default.asp>

Look for more in-depth modules on many of the topics covered in this module at :

<https://www.lni.wa.gov/safety/trainingprevention/online/default.asp>

Workplace Safety and Health

<https://www.lni.wa.gov/safety/>

Additional Resources

MSDS Search

<http://www.msdssearch.com/msdssearch.htm>

Sustainable Marketplace: Greener Products and Services

<https://www.epa.gov/greenproducts>

WISHA has many workplace health and safety regulations, which are called standards. For example, there are standards that require employers to:

- Provide necessary PPE, safety equipment, and training at no cost.
- Limit workers' exposure to chemicals, noise, and other hazards.

DOSH Consultation Services

Safety & health program review and worksite evaluation

By employer invitation only

No Fee

Confidential

No citations or penalties

Letter explains findings

Follow-up all serious hazards



For assistance, you can call one of our consultants. Click below for local L & I office locations:

<https://www.lni.wa.gov/Safety/Consultation/default.asp>

**Thank you for taking the time to
learn about safety and health and
how to prevent injuries and
illnesses.**