

One Hour Safety Presentation

The main goal of the Division of Safety & Hygiene is the reduction of accidents and illnesses in the workplace. Toward this goal, the One Hour Safety presentation is designed to support the delivery of a presentation to co-workers in your workplace to help them understand and promote safer and healthier work environments. It is recommended that you take the DSH Training Center course as a background for using One Hour Safety Presentation to train others at your workplace. Call 1-800-OHIOBWC, option 2, 2, 2 for class dates and locations.

The One Hour Safety Presentation contains:

- Transparency Masters from which films can be made to use on an overhead projector,
- Instructor Notes which gives the instructor suggestions and script notations to use during the presentation, and
- Student Handouts which can be copied for those attending the presentation.

Materials are included for a one-hour presentation on each of these topics:

- ✓ Accident Analysis
- ✓ Bloodborne Pathogens
- ✓ Effective Safety Teams
- ✓ Enhancing Safety through a Drug-Free Workplace
- ✓ Ergonomics Basic Principles
- ✓ Ergonomics Developing an Effective Process
- ✓ Hazard Communication
- ✓ Lockout/Tagout and Safety-related Work Practices
- ✓ Machine Guarding Basics
- ✓ Measuring Safety Performance
- ✓ Powered Industrial Trucks Training Program
- ✓ Respiratory Protection
- ✓ Violence in the Workplace

Applications used:

- 1) Text documents (ending in .txt) can be opened with any word processing program.
- 2) Microsoft PowerPoint slides (ending in .ppt) can be opened with the Microsoft PowerPoint program. If you do not have PowerPoint and you do have Windows 95, 98, 2000 or Windows NT operating system, you can view the PowerPoint slides by downloading a free PowerPoint Viewer from the following website:
<http://office.microsoft.com/downloads/default.aspx?Product=PowerPoint&Version=95|97|98|2000|2002&Type=Converter|Viewer>
- 3) Adobe Reader document (ending in .pdf) contains the One Hour Safety Presentation in read-only format. It can be opened when you download Adobe Reader, which is available free of charge at the following website:
<http://www.adobe.com/products/acrobat/readstep2.html>

If you have comments or questions about these materials for One Hour Safety Presentation, please e-mail us: OCOSHTrng@bwc.state.oh.us

Transparency Masters

Personal Protective Equipment

- ◆ Workplace assessments
- ◆ Criteria for selection
- ◆ Proper use, care, and maintenance

Hierarchy of controls

- ◆ Engineering controls
- ◆ Administrative controls
- ◆ PPE

PPE Hazard Assessment Categories

- ◆ Impact (falling objects or potential for dropping objects)
- ◆ Penetration
- ◆ Compression
- ◆ Chemical
- ◆ Heat/cold
- ◆ Abrasion
- ◆ Harmful dust
- ◆ Light (optical) radiation

Overview of topics

- ◆ Head protection
- ◆ Eye & face protection
- ◆ Hearing protection
- ◆ Hand protection
- ◆ Foot protection
- ◆ Whole body protection

Types of Head Protection

- ◆ Type 1 - Helmets have full brims
- ◆ Type 2 - Helmets have peak but no brim
- ◆ Class A - Reduce impact, low voltage electrical protection
- ◆ Class B - Reduce impact, high voltage electrical protection
- ◆ Class C - Reduce impact, no electrical protection

Eye & Face Protection

- ◆ Eye protection - Safety glasses and goggles
- ◆ Face protection - Faceshields
- ◆ Welding protection - Faceshields and goggles

Hearing Protection: When is it needed?

- ◆ Must be provided to employees exposed at or above

85 dBA (8hr TWA)

- ◆ Must be worn by all employees exposed at or above

90 dBA (8hr TWA)

Hand Protection

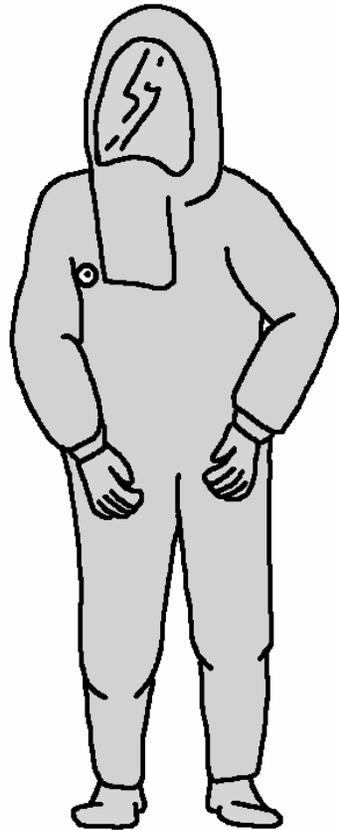
CFR 29 1910.138

- ◆ Chemical absorption and burns
- ◆ Cuts, abrasion, and punctures
- ◆ Thermal burns and temperature extremes

Foot Protection

- ◆ Toe box impact resistance
- ◆ Toe box compression resistance
- ◆ Metatarsal protection when required
- ◆ Electrical protection
- ◆ Sole puncture resistance
- ◆ Static dissipative footwear

Whole Body Protection



- ◆ Handling chemicals
- ◆ Hot materials
- ◆ Welding
- ◆ General
- ◆ Heat stress
- ◆ Cold stress

General Body Protection

◆ Hazards

Skin cancer

Cuts

Abrasions

Sunburn

Frostbite

Insects

◆ Prevention

Long pants

Shirts

Sunscreen

Repellent

Barrier creams

In conclusion....

- ◆ The EMPLOYER is responsible for:
 - Completing a PPE assessment for each employee, and
 - Providing PPE to employees, except for prescription glasses and some types of footwear.
- ◆ The EMPLOYEE is responsible for:
 - Making the employer aware of their needs, and
 - Using and maintaining PPE properly.

Instructor Notes

Personal Protective Equipment

- ◆ Workplace assessments
- ◆ Criteria for selection
- ◆ Proper use, care, and maintenance

Hierarchy of controls

- ◆ Engineering controls
- ◆ Administrative controls
- ◆ PPE

The first choice is always to redesign or re-engineer the work process so as to eliminate the hazard. If there are hazardous substance, **replace it with a less hazardous one or eliminate it altogether.**

The second choice is to use administrative controls, **such as assigning two or more personnel to the hazardous process or exposure thereby exposing them to acceptable levels based upon an 8 hour TWA**

PPE should only be considered when engineering and administrative controls are unworkable or impractical.

PPE Hazard Assessment Categories

- ◆ Impact (falling objects or potential for dropping objects)
- ◆ Penetration
- ◆ Compression
- ◆ Chemical
- ◆ Heat/cold
- ◆ Abrasion
- ◆ Harmful dust
- ◆ Light (optical) radiation

An assessment or walk-through survey is done for each segment of the work process for the purpose of recognizing real and/or potential hazards, which may result in the use of PPE.

Job Hazard analysis

- ◆ Assign competent, responsible persons
- ◆ Obtain written job descriptions
- ◆ Assemble relevant MSDS
- ◆ Assemble relevant injury and accident reports
- ◆ Observe tasks and note hazards

Overview of topics

- ◆ Head protection
- ◆ Eye & face protection
- ◆ Hearing protection
- ◆ Hand protection
- ◆ Foot protection
- ◆ Whole body protection

Types of Head Protection

- ◆ Type 1 - Helmets have full brims
- ◆ Type 2 - Helmets have peak but no brim
- ◆ Class A - Reduce impact, low voltage electrical protection
- ◆ Class B - Reduce impact, high voltage electrical protection
- ◆ Class C - Reduce impact, no electrical protection

Helmet selection criteria

- ◆ Degree of hazard
- ◆ Type of hazard
- ◆ Chemicals to which the helmet might be exposed
- ◆ Electrical hazards
- ◆ Protective devices that may be attached
- ◆ Any other job or site specific hazard

Conditions to avoid

- ◆ Wearing backwards without reason
- ◆ Wearing backwards without reversing suspension
- ◆ Wearing unapproved headgear underneath
- ◆ Painting the helmet
- ◆ Altering suspension or shell

Inspection

- ◆ Before use
- ◆ After served their purpose
- ◆ Check suspension
- ◆ Check shell for cracks, dents or breaks

Maintenance

- ◆ Clean with mild detergent and clean water
- ◆ No solvents
- ◆ Discard if shell is defective
- ◆ Replace suspension if defective

Eye & Face Protection

- ◆ Eye protection - Safety glasses and goggles
- ◆ Face protection - Faceshields
- ◆ Welding protection - Faceshields and goggles

Eye protection requirements

- ◆ Frame impact
- ◆ Lens impact
- ◆ Lens penetrability
- ◆ Optical acuity
- ◆ Flammability and corrosion resistance
- ◆ Cleanability

Face protection requirements

- ◆ Impact resistance
- ◆ Penetrability
- ◆ Optical acuity
- ◆ Haze
- ◆ Transmittance
- ◆ Flammability and corrosion resistance
- ◆ Cleanability

Welding: Faceshields and Goggles

- ◆ Must meet all criteria for eye protection devices plus light tightness
- Selection of eye and face protection
- ◆ Several styles should be available
 - ◆ Suited for the job to be performed
 - ◆ Welding - proper shade for materials and type of welding
 - ◆ Safety sunglasses and photochromatic lenses - if no hazard created
 - ◆ Special hazards - special protection

Inspection & Maintenance

- ◆ Prior to each use
- ◆ Check frames or headband
- ◆ Check lenses or faceshield
- ◆ Welding - check tint
- ◆ Protect from damage
- ◆ Keep clean

Hearing Protection: When is it needed?

- ◆ Must be provided to employees exposed at or above
85 dBA (8hr TWA)
- ◆ Must be worn by all employees exposed at or above
90 dBA (8hr TWA)

Hearing protection attenuation

- ◆ Defined as the reduction of sound pressure levels
- ◆ NRR = Noise Reduction Rating

Noise reduction rating

- ◆ Will be displayed on the packaging of hearing protection
- ◆ NRR's used to estimate attenuation of hearing protection
- ◆ Appendix B 1910.95

Attenuation criteria

- ◆ All hearing protection must reduce exposures to at least an 8hr TWA of 90 dBA
- ◆ For employees with a Standard Threshold Shift, exposures must be reduced to an 8hr TWA of 85 dBA or less

Types of hearing protection

- ◆ Ear Plugs
- ◆ Semi-aural Devices
- ◆ Ear Muffs

Hearing protectors

- ◆ Available in many types and sizes
 - premolded
 - formable
 - custom-molded
- ◆ Employees must be given a variety of types and sizes to choose from

Use & care

- ◆ All hearing protection must be initially fit when dispensed
- ◆ Inspect hearing protection prior to use for degradation, missing parts, and cleanliness

Cleaning hearing protection

- ◆ Most hearing protectors are designed to be disposable, so for re-usable types:
- ◆ Most may be cleaned with a mild soap solution; allow to completely dry before re-using
- ◆ Ear muffs may be surfaced cleaned with mild soap and water

Hand Protection

CFR 29 1910.138

- ◆ Chemical absorption and burns
- ◆ Cuts, abrasion, and punctures
- ◆ Thermal burns and temperature extremes

MSDS review

- ◆ Note chemicals listing skin as target organ
- ◆ Watch for 'skin' notation in ingredients list
- ◆ Note terms such as irritation, defatting, caustic, dermatitis, dermatoses
- ◆ Red flags: acids, bases, solvents

Accident & injury review

- ◆ Analyze 300 log
- ◆ Review relevant BWC FROI and/or OSHA 101 forms
- ◆ Review in-house accident investigation forms
- ◆ Review first aid logs
- ◆ Analyze comp costs from BWC MREE

Observation of tasks for chemical hazards

- ◆ Do hands come into contact with chemicals which may harm or penetrate the skin?
- ◆ Are there residual chemicals present on parts or materials as a result of prior processes?
- ◆ Is skin contact with chemicals prolonged or repeated?

Observation of tasks for physical hazards

- ◆ Are parts/materials/tools:
 - hot or cold, potentially causing discomfort or injury?
 - have sharp or pointed edges which may cause cuts or punctures in skin or gloves?
 - rough or abrasive?
 - slippery or awkward to handle?
 - moving when hand contact occurs?
- ◆ Is compressed air used in the process?

Foot Protection

- ◆ Toe box impact resistance
- ◆ Toe box compression resistance
- ◆ Metatarsal protection when required
- ◆ Electrical protection
- ◆ Sole puncture resistance
- ◆ Static dissipative footwear

Labeling of footwear

◆ Female shoe

Impact and compression protection
ANSI Z41 PT91
F I/75 C/50

◆ Male shoe

Impact and compression protection with puncture resistance
ANSI Z41 PT91
M I/75 C/50
PR

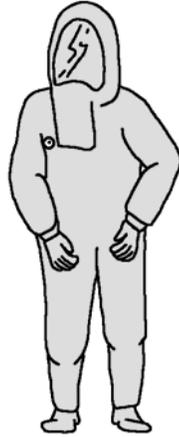
Selection

Type of work
Presence of hot materials
Potential for sole penetration
Need for electrical protection
Need to dissipate static
Presence of chemicals

Inspection & maintenance

Inspection - prior to use, especially critical if footwear offers electrical protection
Maintenance - Per manufacturers recommendations
Note: Employer not required to provide

Whole Body Protection



- ◆ Handling chemicals
- ◆ Hot materials
- ◆ Welding
- ◆ General
- ◆ Heat stress
- ◆ Cold stress

Handling chemicals

- ◆ Chemical suits
- ◆ Aprons
- ◆ Gloves
- ◆ Boots
- ◆ Respirators
- ◆ Face and eye protection

Hot materials

- ◆ Natural fibers
- ◆ Long sleeves
- ◆ Long pants
- ◆ Leather shoes
- ◆ Gloves
- ◆ Aprons

Welding

- ◆ Aprons
- ◆ Gloves
- ◆ Sleeves
- ◆ Leather jackets
- ◆ Natural fibers
- ◆ Long pants
- ◆ Leather shoes

General Body Protection

◆ Hazards

Skin cancer
Cuts
Abrasions
Sunburn
Frostbite
Insects

◆ Prevention

Long pants
Shirts
Sunscreen
Repellent
Barrier creams

Heat stress

- ◆ Proper clothing
- ◆ Water
- ◆ Acclimatization
- ◆ Diet
- ◆ Symptom Recognition
- ◆ No alcohol

Cold stress

- ◆ Proper clothing
- ◆ Diet
- ◆ Acclimatization
- ◆ Symptom recognition
- ◆ Stay dry
- ◆ No alcohol

Inspection

- ◆ Articles designed as PPE should be inspected in accordance with manufacturers specification
- ◆ Other articles should be inspected for appropriateness to the situation

Maintenance

- ◆ Maintenance of items of PPE should be accomplished in accordance with manufacturers recommendations
- ◆ Articles of personal clothing should be cleaned frequently to remove irritating or dangerous substances and allow the clothing to perform it's function

In conclusion....

- ◆ The EMPLOYER is responsible for:
 - Completing a PPE assessment for each employee, and
 - Providing PPE to employees, except for prescription glasses and some types of footwear.
- ◆ The EMPLOYEE is responsible for:
 - Making the employer aware of their needs, and
 - Using and maintaining PPE properly.

Student Handouts

Personal Protective Equipment

- ◆ Workplace assessments
- ◆ Criteria for selection
- ◆ Proper use, care, and maintenance

Hierarchy of controls

- ◆ Engineering controls
- ◆ Administrative controls
- ◆ PPE

PPE Hazard Assessment Categories

- ◆ Impact (falling objects or potential for dropping objects)
- ◆ Penetration
- ◆ Compression
- ◆ Chemical
- ◆ Heat/cold
- ◆ Abrasion
- ◆ Harmful dust
- ◆ Light (optical) radiation

Overview of topics

- ◆ Head protection
- ◆ Eye & face protection
- ◆ Hearing protection
- ◆ Hand protection
- ◆ Foot protection
- ◆ Whole body protection

Types of Head Protection

- ◆ Type 1 - Helmets have full brims
- ◆ Type 2 - Helmets have peak but no brim
- ◆ Class A - Reduce impact, low voltage electrical protection
- ◆ Class B - Reduce impact, high voltage electrical protection
- ◆ Class C - Reduce impact, no electrical protection

Eye & Face Protection

- ◆ Eye protection - Safety glasses and goggles
- ◆ Face protection - Faceshields
- ◆ Welding protection - Faceshields and goggles

**Hearing Protection:
When is it needed?**

- ◆ Must be provided to employees exposed at or above
85 dBA (8hr TWA)
- ◆ Must be worn by all employees exposed at or above
90 dBA (8hr TWA)

**Hand Protection
CFR 29 1910.138**

- ◆ Chemical absorption and burns
- ◆ Cuts, abrasion, and punctures
- ◆ Thermal burns and temperature extremes

Foot Protection

- ◆ Toe box impact resistance
- ◆ Toe box compression resistance
- ◆ Metatarsal protection when required
- ◆ Electrical protection
- ◆ Sole puncture resistance
- ◆ Static dissipative footwear

Whole Body Protection



- ◆ Handling chemicals
- ◆ Hot materials
- ◆ Welding
- ◆ General
- ◆ Heat stress
- ◆ Cold stress

General Body Protection

- | ◆ Hazards | ◆ Prevention |
|-------------|----------------|
| Skin cancer | Long pants |
| Cuts | Shirts |
| Abrasions | Sunscreen |
| Sunburn | Repellent |
| Frostbite | Barrier creams |
| Insects | |

In conclusion....

- ◆ The EMPLOYER is responsible for:
 - Completing a PPE assessment for each employee, and
 - Providing PPE to employees, except for prescription glasses and some types of footwear.
- ◆ The EMPLOYEE is responsible for:
 - Making the employer aware of their needs, and
 - Using and maintaining PPE properly.
