

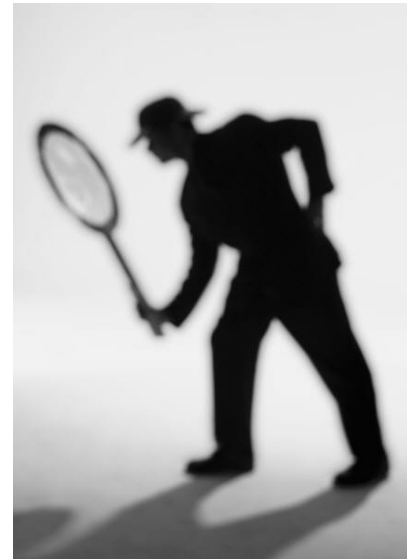
Accident Investigation



Accident Investigation - What is it?

Accidents and incidents result from a failure of people, equipment, supplies, or surroundings.

A successful accident investigation determines not only what happened, but also attempts to find out how and why the accident occurred.



Accident investigation is primarily a fact-finding procedure; the facts revealed are used to prevent recurrences of similar accidents and to increase the level of safety and health for employees.

Accident investigations are performed to:

- verify that procedures are written properly and being followed
- verify that all required actions are being taken
- determine if risk factors have been reduced or eliminated to the maximum extent feasible
- determine control measures to be implemented.

Accident Investigation



Employee Responsibilities

- Promptly report incidents or near misses that occur
- Report hazardous conditions to your supervisor
- Participate in incident investigations, as needed or required



Accident Investigation



Hazard Reporting

A system for reporting hazards must be in place or developed for the company.



The person reporting the hazard must:

- notify the department supervisor of the hazard
- perform lockout/tagout, if required, and
- fill out required sections of a report.

The employee's supervisor must:

- notify all affected workers of the hazard
- notify the maintenance department of the hazard, if required
- ensure the hazard is properly marked and controlled until corrected, and
- notify management and the company safety officer of the hazard.

Back Safety



Awkward Postures

Potential Hazards

- Bending while lifting forces the back to support the weight of the upper body in addition to the weight you are lifting.
- Bending moves the load away from the body and allows leverage to significantly increase the effective load on the back.
- Reaching moves the weight of the load away from the body, increases the effective load on the back, and places considerable strain on the shoulders.
- Carrying loads on one shoulder, under an arm, or in one hand, creates uneven pressure on the spine.
- Poor housekeeping limits proper access to objects being lifted and forces awkward postures.

Possible Solutions

- Store materials that need to be manually lifted and transported in the employees' "power zone."
- Minimize bending and reaching by placing heavy objects on shelves, tables, or racks.
- Help employees avoid twisting. Have them turn by moving their feet rather than twisting their torso.
- Remind employees to keep the vertical distance of lifts between mid-thigh and shoulder height.
- Remind employees to keep the load close to the body.
- Provide ladders, aerial lifts, or other mechanical means to elevate or move personnel.
- Break down loads into smaller units so employees can carry one in each hand to equalize loads.
- Optimize employee access to heavy items through good housekeeping and preplanning.

Back Safety



Force – Lifting

How much weight a worker can safely lift depends on a number of factors:

- body posture
- lifting factors
- object weight
- how close or far the object is from the body
- how bulky the object is
- how high or low the object is
- how much twisting or bending is required
- how frequent the lifts are
- how far the load must be carried
- how the load is gripped or held



General controls to reduce lifting hazards:

- Use lift assists (such as hand dollies, carts, lift tables, and forklifts).
- Reduce the size of product boxes to lighten the load.
- Arrange the work space so employees can move closer to the load and perform lifts with arms close to the body.
- Use adjustable palletizers that allow loading at waist height.
- Use pallets that can rotate.
- Use tubs with adjustable bottoms to reduce the need to bend over to remove product.
- Put objects to be lifted on a surface above floor level.
- Arrange workstations so lifting is done in front and without twisting.
- Use chutes and slides to move loads across conveyors or in a new direction.
- Put handles or grips on boxes.
- Use gloves that aid in holding slippery objects.

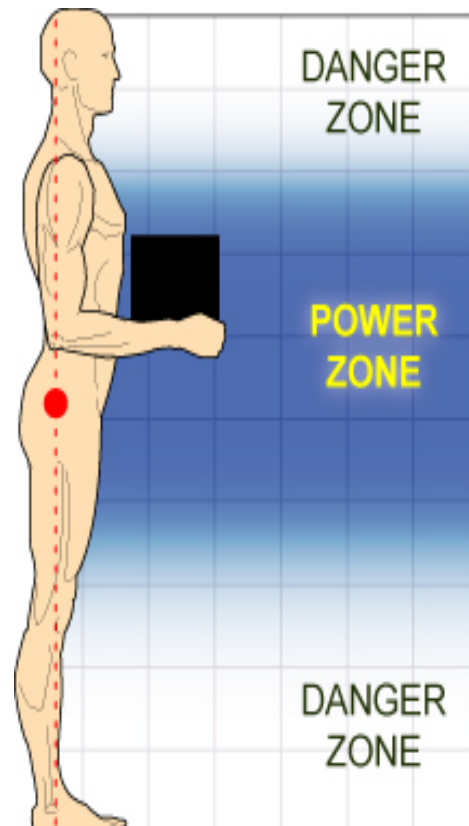
Back Safety



General Information

Assess the tasks and activities to be performed. Remember the benefits of good body mechanics.

- Use good lifting principles, especially when reaching, twisting, and lifting from heights and awkward angles.
- Use the “power zone” (the area between your upper chest and lower thighs) to move loads safely.
- Always ask yourself:
 - What tools can I use?
 - What should I **not** do?
- Stretch and exercise your back regularly.



Back Safety



Good Body Mechanics

- Maintain proper posture.
- Change positions frequently (walk or stretch).
- Minimize the amount of bending and twisting you do.
- Avoid reaching out over an obstruction to lift, hold, pull, or lower an object.
- Store frequently used or heavier items at waist height.
- Push loads – don't pull them.

Make a plan for lifting, carrying, and reaching:

- Test the weight.
- Face the object in a stable stance.
- Don't hold your breath.
- Use your legs, not your back.
- Do not bend and twist at the same time.
- Check your pathway to be sure there are no tripping hazards.



Back Safety



Horizontal Reaches and the Shoulders

Potential Hazards of Horizontal Reaches

- Repetitive or prolonged forward reaching that pulls the elbow away from the body forces the shoulder to support the weight of the arm and any load in the hand.
- Performing horizontal motions, such as pushing materials down a conveyor line with the arms extended, increases the risk of muscle and tendon strain and overexertion.

Possible Solutions

- Redesign work stations so equipment and products can be reached while workers keep the elbows in close to the body.
- Provide conveyors, roller tables, or low-friction surfaces when employees move a load to another area so they don't manually push it across a standard work bench.
- Reduce the width of conveyor belts or use diverters to keep materials close to the employee's body.
- Provide support for the arms or the weight of the object to take the stress off the shoulders.
- Position work areas to keep workers' elbows close to the body. Remove obstructions, such as work tables, bins, or power equipment, so employees can move closer to the task.

Back Safety



Move Safely

- While carrying a load, do not twist or bend.
- When setting the load down, bend at the knees and slide the load down your body.
- Always know how much an item weighs before you lift it.
- Always push a load; do not pull it.



Back Safety



Overhead Reaching and the Shoulders

Potential Hazards of Overhead Reaches

- Working with the elbow above shoulder height for prolonged periods can trap nerves and blood vessels under bone and muscle, leading to numbness and tingling in the hands, and can fatigue the muscles of the shoulder and upper arm.
- Repeatedly lifting or applying force with arms above shoulder level can strain the muscles and tendons of the shoulder and neck, making them more susceptible to tears and fatigue. Bursitis and tendonitis can result from irritation as these tasks are repeatedly performed.

Possible Solutions

- Provide height-adjustable work platforms to elevate employees and reduce the need for elevated or extended reaches.
- Provide stools or ladders to elevate workers so tasks can be performed with the elbows close to the body.
- Provide assist equipment to mechanically lift and hold materials above the head so employees do not maintain awkward postures for extended periods.
- Provide extending tools or handles to prevent employees from working with their arms above shoulder level.



Back Safety



Risk Assessment

Risk assessment can be a big, complex process, but it doesn't have to be. It's really nothing more than a careful examination of your work area to determine what could cause you harm. Use that information to decide whether you have taken enough precautions or you should do more to prevent injury.

Before you lift, think about it:

- How much does it weigh?
- How much can I safely lift?
- Can I get a secure grip?
- Are there loose, falling, or moving objects?
- Are there slip/trip hazards or is my path clear?

It pays to step back and think about material handling jobs. You can prevent injuries in new jobs, and get some fresh insight into the "same old" jobs.

Before you lift, think about it:

- What is the best way?
- Are the objects I am lifting secure?
- Can I raise or lower them properly?
- Do I need help or equipment to lift or carry this?



Risk assessment should be a continual process. Things change. New hazards may be introduced. Improved methods may be discovered or may become available.

Back Safety



Safe Lifting Techniques

Use a pushcart or other material-handling device.
Ask a co-worker for help if no device is available.

If you must lift alone:

- check the entire walkway or path before lifting
- wear good shoes that provide balance and traction, and
- keep loads as close to your body as possible.



Don't Pull!

Push!

General Safety Tips

- Don't lift objects over your head.
- Don't twist your body when lifting or setting an object down.
- Don't reach over an obstacle to lift a load.
- Pace yourself to avoid fatigue.



Back Safety



Situations to Avoid

Lifting or lowering from a high place

If you must do this:

- Stand on a platform instead of a ladder.
- Lift the load in smaller pieces, if possible.
- Slide the load as close to yourself as possible.
- Grip firmly and slide the load down.
- Get help when you need it.

Lifting from hard-to-get-at places

If you must do this:

- Get as close to the load as possible.
- Keep your back straight and stomach muscles tight.
- Bend your knees.
- Lift with your legs, not your back.

Lifting drums, barrels, and cylinders

If you must do this:

- Use mechanical assists.
- Always be aware that loads can shift.
- Get help if the load is too heavy.

Lifting awkward objects

If you must do this:

- Bend your knees with your feet spread apart.
- Grip the top outside and bottom inside corners.
- Use your legs to lift, keeping your back straight.

Shoveling

If you must do this:

- Make sure your grip and balance are solid.
- Tighten your abdomen as you lift.
- Keep the shovel close to your body.
- Use your thighs and legs to bring you upright.
- Keep your lower hand close to the blade to increase leverage.



Back Safety



Tips to Remember

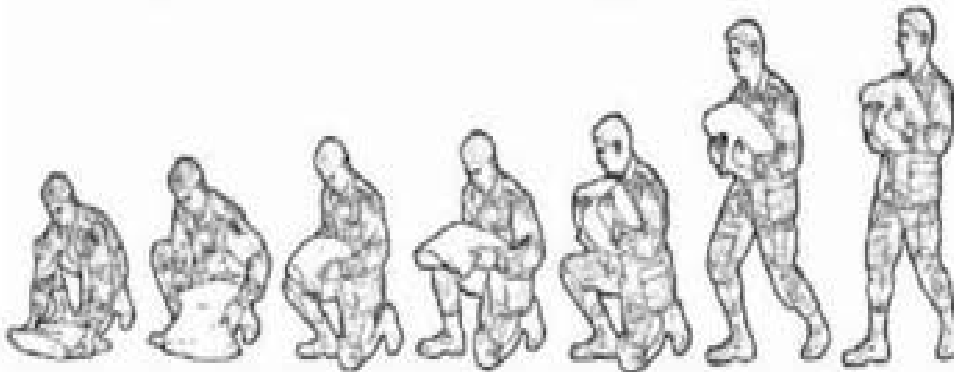
- Always wear shoes or boots with slip-resistant soles that fit comfortably.
- Make sure your path is clear.
- Know where to put the load down.
- Never hurry when carrying a load.
- Organize your work area to reduce unnecessary lifting or moving.
- Check the condition of mechanical lifting aids before use.
- Use proper handholds to make lifting easier and reduce the risk of injury.

Back Safety



Tripod Lift

Tripod Lift¹ (an alternative for lifting bagged material)



- Less arm strength required
- **Not for those with bad knees**

- Slide bag to mid-thigh
- Lift onto opposite thigh
- "Hug" bag to stomach and chest
- Lift by extending your legs

Ergonomics



Lifting and Lowering

When unloading, use the same principles as when you lift:

- Keep your back relatively straight.
- Bend your knees.
- Rest the object down before you release your hands.

When carrying, don't twist or turn your back.

- Take a step to turn, or pivot with your feet.
- Set up the lift so twisting is minimized by setting the load farther away from where it is lifted.



Ergonomics



Manual Lifting & Materials Handling

- Manual lifting and materials handling occur in all workplaces.

- Injuries related to manual lifting and materials handling account for at least 25% of all workers' compensation cases.



- Cumulative trauma is probably the main cause of most back injuries.

Ergonomics



Solutions to Lifting Heavy Loads

General controls to reduce lifting hazards:

- Use lift assists, such as hand trucks, carts, and forklifts.
- Reduce the size of product boxes to lighten loads.
- Arrange work space so employees can move closer to loads and perform lifts with arms close to the body.
- Use pallets that can rotate.
- Put objects to be lifted at waist level.
- Arrange workstations so lifting is done in front, without twisting.
- Put handles or grips on boxes.
- Use gloves that aid in holding slippery objects.



Ergonomics

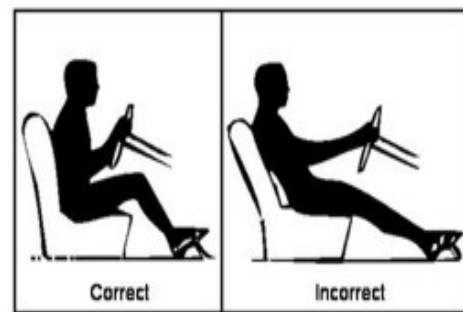


Driving (Tips for a Healthy Back)

- Use proper seat support.

- Sit close to the wheel.

- Keep your knees bent and higher than your hips.



- When driving for long periods, stop occasionally and walk.

Ergonomics



Shoveling (Tips for a Healthy Back)

- Use a wide base of support.
- Keep your knees bent.
- Keep your back straight.
- Choke down on the shovel.
- Lift with your legs.
- Pivot instead of twisting.

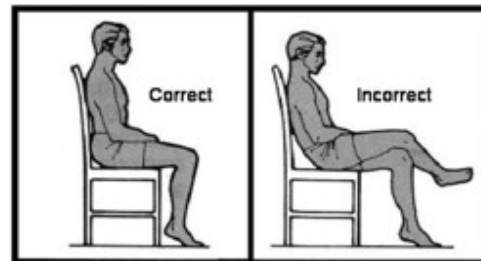


Ergonomics



Sitting (Tips for a Healthy Back)

- Sit all the way back.
- Keep the back, head, and shoulders erect.



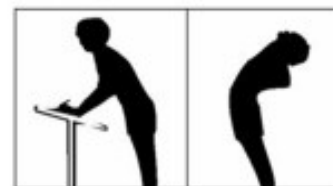
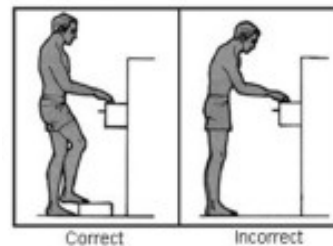
- Don't slouch!

Ergonomics



Standing and Stooping (Tips for a Healthy Back)

- Avoid standing for long periods of time.
- Prop up a foot occasionally.
- Lean on something occasionally.
- Avoid bending forward.
- Bend backwards and stretch regularly.

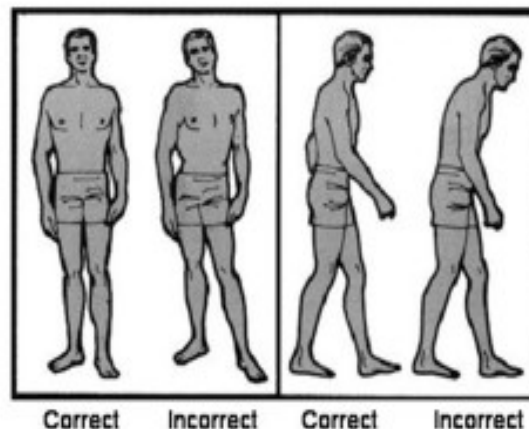


Ergonomics



Standing and Walking (Tips for a Healthy Back)

- Keep toes straight ahead.
- Keep your weight on your heels.
- Hold your chest forward.
- Stand tall.



Back Safety On The Job

Back safety and protecting your back benefits your health both at work as well as in your personal life. Back injuries represent 20% of all workplace injuries and are the 2nd most common reason for absence from work next to the common cold. Back injuries can be painful and debilitating, but you can take steps to avoid injury and preserve the long-term health of your back.

THE RISKS

- **Heavy lifting** - especially repetitive lifting over a long period of time
- **Twisting at the waist** - while lifting or holding a heavy load.
(This is a common movement when shoveling)
- **Reaching and lifting** - over your head, across a table, or out the back of a truck.
- **Lifting or carrying objects with awkward or hard to grasp shapes**
- **Working in awkward, uncomfortable positions** - kneeling, tasks that require you to bend over for long periods of time, as well as sitting or standing for too long without shifting.

When confronted with these situations, protect yourself by using proper lifting technique, asking for assistance, turning with your feet instead of twisting at the waist, or taking short breaks to stretch and flex your muscles.



PROPER LIFTING TECHNIQUE

The key to reducing **stress on back muscles** and **compressive forces** on the spine is in keeping your back as **STRAIGHT** as possible when lifting and maintaining the load as close to the body as possible. To accomplish this remember to:

- 1) Evaluate the load – is it too heavy/can you get a stable grasp?
 - 2) Approach the load squarely w/feet shoulder width apart.
 - 3) Bend at one or both knees, keeping your back as **STRAIGHT** as possible and firmly grasp the load, keeping it close to your body.
 - 4) Lift the load slowly using your legs/thighs to lift and stand.
- Lowering the load should be done with this same technique in reverse.



PREVENTATIVE MEASURES

Place objects up off the floor. Lowering objects from a table or other elevated surface eliminates the need to bend or lift them again; Raise or lower shelves and place heavier objects between shoulder and waist level where there is less risk in lifting; Use cars, dollies or lifting devices and remember that pushing always places less stress on your back than pulling.



BACK BELTS

While back belts can provide support in one-time heavy lifts, there is no scientific evidence that they prevent back injuries, and studies have shown that their improper use can weaken back and other muscles, give a false sense of security, and under some circumstance even increase stress on the back while lifting.


Bloodborne Pathogens



Communication of Hazards to Employees

1 of 2

Labels

- Labels must:
 - include the universal biohazard symbol: 
 - be predominantly fluorescent orange or orange-red with lettering and symbols in a contrasting color
 - be affixed on the container by adhesive, string, wire, or other method, and
 - not be inadvertently lost or fall off unintentionally.
- Red bags or red containers may be substituted for labels.
- Labels for contaminated equipment must follow these requirements and must also state what portions of the equipment are contaminated.
- Decontaminated materials need not be labeled.
- Warning labels must be affixed to containers and any storage devices used for blood or other potentially infectious material (OPIM).
 - Individual containers inside a labeled container for storage, transport, shipment, or disposal do not need labels.
 - Blood released for clinical medical use does not need biohazard labeling.



Bloodborne Pathogens



Communication of Hazards to Employees

2 of 2

Information and Training

- The training program must explain:
 - the regulatory standard's contents
 - the signs and symptoms of bloodborne diseases
 - how pathogens are transmitted
 - the company's exposure control plan
 - how the employee can obtain a copy of the written plan
 - the appropriate methods for recognizing tasks and other activities that may involve exposures
 - the use and limitations of control methods to prevent or reduce exposure (including protective equipment, devices, and work practices)
 - the selection, types, proper use, location, removal, handling, decontamination, and disposal of personal protective equipment
 - the hepatitis B vaccine series, including its effectiveness, safety, benefits of vaccination, and that it is free to the employee
 - the actions to take and persons to contact in an emergency
 - the procedure to follow if an exposure incident occurs, including how to report the incident and obtain medical follow-up that the company provides, and
 - the signs, labels, and/or color-coding required for containers.
- Training must be appropriate in content and vocabulary to educational level, literacy, and language of employees, and include a copy of (or access to) the regulatory text of the standard.
- The person conducting the training must be knowledgeable in the standard, as it relates to the company, and provide opportunities for questions and answers during the training.
- Employees in HIV and HBV laboratories and production facilities must complete additional initial training resulting in demonstrated knowledge and proficiency in microbiological practices and techniques.
- All employees with occupational exposures must attend training:
 - at the time of initial assignment of exposure tasks
 - at least annually thereafter (within one year of previous training), and
 - when changes or modifications to tasks or procedures affect exposures.

Bloodborne Pathogens



Employee Information

- Wear protective equipment when there is a potential of coming in contact with blood or body fluids.

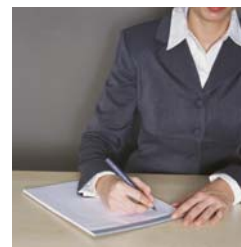


- Protective equipment includes gloves, goggles or safety glasses, and protective clothing, such as lab coats.

- Dispose of contaminated materials in the proper containers.

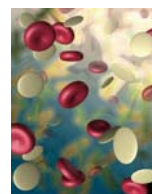


- Attend Bloodborne Pathogens awareness training at least once each year.



- If you are involved with an exposure or injury, notify your supervisor. They have specific records they must keep.

- Clean up spills of blood or body fluids promptly so they do not contaminate the area, equipment or other people.



Bloodborne Pathogens



HIV/HBV Research & Production

1 of 4

This information applies to research labs or production facilities doing the following with HIV and HBV:

- Culturing
- Production
- Concentrating
- Experimentation
- Manipulation

These requirements apply in addition to the other requirements of the Bloodborne Pathogens standard.

These requirements do not apply to clinical or diagnostic laboratories engaged solely in the analysis of blood, tissues, or organs.



Containment Equipment

- Certified biological safety cabinets (Class I, II, or III) or other appropriate combinations of personal protection or physical containment devices, such as special protective clothing, respirators, centrifuge safety cups, sealed centrifuge rotors, and containment caging for animals, must be used for all activities with potentially infectious materials that pose a threat of exposure to droplets, splashes, spills, or aerosols.
- Biological safety cabinets must be certified when installed, whenever they are moved, and at least annually.

Bloodborne Pathogens



HIV/HBV Research & Production

2 of 4

HIV/HBV Research laboratories and production facilities must comply with special practices.

- Laboratory doors must remain closed when HIV or HBV work is in progress.
- Access to the work area must be limited to authorized persons. Entry and exit procedures must be strictly adhered to.
- Hypodermic needles and syringes may be used only for parenteral injection and aspiration of fluids from laboratory animals and diaphragm bottles. Only needle-locking syringes or syringe-needle units may be used for the injection or aspiration of other potentially infectious materials. Needles may not be bent, sheared, replaced in the sheath or guard, or removed from the syringe following use. The needle and syringe must be promptly placed in a puncture-resistant container and autoclaved or decontaminated before reuse or disposal.
- Vacuum lines must be protected with liquid disinfectant traps and high-efficiency particulate air (HEPA) filters or the equivalent. Filters must be checked routinely and maintained or replaced as necessary.
- Protective clothing must be used in the work area and animal rooms, and not worn outside these areas. It must be decontaminated before laundering.
- Gloves must be worn when handling infected animals and when making hand contact with other potentially infectious materials is unavoidable.
- Materials for off-site decontamination must be placed in durable, leakproof, labeled or color-coded, closed containers prior to removal.
- Wastes must either be incinerated or decontaminated before disposal by autoclaving or a similar method to effectively destroy pathogens.
- All spills must be immediately contained and cleaned up by people properly trained and equipped to work with infectious materials.
- A spill or accident that results in an exposure incident must be immediately reported to management or supervision.
- When OPIM or infected animals are in the work area, a hazard warning sign with the universal biohazard symbol must be posted on all access doors.
- All activities involving OPIM must be conducted in cabinets or other physical-containment devices within the work area, and never on an open bench.
- A bio-safety manual must be written and reviewed or updated at least annually.
- Personnel must:
 - be advised of potential hazards
 - read instructions on practices and procedures, and
 - follow those procedures.

Bloodborne Pathogens



HIV/HBV Research & Production

3 of 4

In all HIV and HBV research laboratories:

- hand and eye washing facilities must be readily available, and
- an autoclave for decontamination must be available.

In all HIV and HBV research laboratories:

- The work areas must be separated from areas that are open to unrestricted traffic flow within the building.
- Two sets of doors for work area entry are required.
- Self-closing access doors to the work area or containment module are required.
- Doors, walls, floors, and ceilings must be water-resistant and sealed to facilitate cleaning and decontamination.
- Hand-washing facilities and an eye wash facility must be readily available. The sink must be foot, elbow, or automatically operated and located near the exit door.
- An autoclave for decontamination must be available.
- A ducted exhaust-air ventilation system that draws air into the work area through the entry area and discharges it to the outside (away from occupied areas and air intakes) without recirculation must be provided.



Training Requirements

- Proficiency in standard microbiological practices and techniques and in the practices and operations specific to the facility must be demonstrated before employees may work with HIV or HBV.
- Employees must have prior experience with human pathogens or tissue cultures or complete employer-provided progressive training (with demonstrated proficiencies at each level) before being allowed to work with HIV or HBV.

Bloodborne Pathogens



Signs for Research and Production Facilities Only

4 of 4

- Signs must be posted at the entrance to work areas and contain the following:
 - name of infectious agent
 - special requirements for entering the area, and
 - name and telephone number of laboratory director or responsible person.
- Signs must be predominantly fluorescent orange-red, with lettering and symbols in a contrasting color.



Bloodborne Pathogens

BLOODBORNE PATHOGENS: INCIDENTAL EXPOSURE

Bloodborne pathogens are microorganisms like viruses or bacteria that are carried in the blood and other bodily fluids such as saliva, amniotic fluid, and others. They can cause illnesses, such as Malaria, Syphilis, Hepatitis B and HIV.

ALL BODY FLUIDS SHOULD BE TREATED AS IF CONTAMINATED

Workplace transmission can be through:

- Open sores
- Cuts
- Blisters
- Burns, even a bad sunburn
- Puncture with a sharp object (needle, razor, broken glass)
- Eye, nose or mouth



PREVENTION

- Never handle blood or anything contaminated without gloves.
- Wear gloves that fit.
- Wash hand frequently and completely (20 seconds at least).
- Do not handle possible contaminated sharp objects by hand; use a brush and dustpan or tongs to remove them from your work area.
- Maintain good housekeeping at all times.
- Dispose of blood or other bodily fluid stained materials immediately.
- Sanitize equipment or other surfaces that may become contaminated.
- If unsure about anything contact your supervisor for directions.

IF YOU ARE EXPOSED:

- Wash exposed skin thoroughly with antibacterial soap. If exposed through eyes, nose or mouth, flush for 15 minutes.
- Report the exposure to your supervisor immediately.
- Seek medical attention as directed by your employer. The doctor will recommend any treatments or counseling that may be needed, depending on the incident.

Active Shooter

RUN..... HIDE..... FIGHT

RUN - Evacuate: If there is an accessible escape path, attempt to evacuate the premises.

Be sure to:

- Have an escape route and plan in mind
- Evacuate regardless of whether others follow or not
- Grab your cell phone, leave other belongings behind
- Call 911 when you are safe
- Do not attempt to move wounded people

HIDE - Shelter-in-Place: If evacuation is not possible, find a place to hide where the active shooter is less likely to find you. Your hiding place should:

- Stay out of the active shooter's view
- Provide protection if shots are fired in your direction to prevent the active shooter from entering your hiding place:
 - § Lock the door
 - § Blockade the door with heavy furniture
- ***If the active shooter is nearby:***
 - § Remain quiet and lock the door
 - § Silence your cell phone
 - § Hide behind large items (i.e. cabinets, desks)

FIGHT - Protect Yourself: As a last resort:

- Acting as aggressively as possible against him/her
- Yelling/Throwing items and improvising weapons
- Fully committing to your actions

WHEN POLICE ARRIVE

- Put down any items in your hands.
- Keep hands visible.
- Follow all instructions.
- Avoid making quick movements towards officers.

Emergency Action and Fire Prevention Planning



Alarms and Notification



Alarms and Signals to notify employees of an emergency evacuation must be distinctive in sound and consistent throughout the site.



- Alarms may be automatic or verbally provided in person or through a public address system, but all employees must be able to understand them.
- The same sound or wording must be used throughout the site.
- Employees must be trained and informed of the sounds or wording used.

Return to work signals must be provided once it is safe for employees to re-enter the workplace.

Each supervisor or other designated person at each jobsite must be aware of the signal used and watch for it.

Emergency Action and Fire Prevention Planning



Evacuation and Relocation

- Evacuation routes must be established for each area of the building or jobsite.
- Employees must be trained and informed of their evacuation routes and relocation points.
 - If an exit sign or route of travel is not immediately apparent to employees, companies must conspicuously place either exit and exit route signs or evacuation route maps.
 - Management must establish evacuation routes and relocation points for offsite job locations before employees may be assigned to the jobsites.
- Relocation points must be established where employees must congregate and be accounted for during an evacuation.
- A designated person must account for employees at each relocation point and report the accounting to the emergency response coordinator.
- Where appropriate, severe weather relocation points (shelters or arrangements with neighboring facilities) must be communicated to employees during the training.
- Each designated person at a relocation point must be aware of the return-to-work signal used.



Emergency Action and Fire Prevention Planning



Exits and Exit Paths



- Direct paths to exits must be established.
- All exits, aisles, exit paths, and stairways must be kept clear and unobstructed.
- No storage is allowed that will restrict or block the exit, exit path, stairways, or exit doors.
- All exits and paths must be clearly visible or have visible signs that indicate the location of the exit.
- Exits and paths, emergency lighting, and numbers of exits and exit signs must meet specific codes and regulations.
- Doors that could be mistaken for an exit must be marked “Not an Exit” or labeled with their designated use (such as “closet”).
- Locks or fastening devices that keep exit doors closed or locked from the inside are forbidden.

Emergency Action and Fire Prevention Planning



Fire Alarms and Detection

- Fire alarms are required in buildings where the location of the fire will not provide adequate warning to employees and other occupants (i.e., multi-floor buildings or segregated work spaces).
- Alarms must be loud enough to be heard above the ambient noise level of the work area and activate in time to provide adequate warning for the work area occupants to safely evacuate.
- Alarms and signals must be tested and maintained to ensure they remain in working order.
- Buildings undergoing construction and renovation (where employees are still working and occupying the work areas) must have appropriate (or alternate) alarms and fire prevention systems in place that are at least equal to those required for the occupancy and type of hazards in the area. This includes hazards inherent to the work area and tasks performed, as well as any additional hazards caused by the construction or renovation.



Emergency Action and Fire Prevention Planning



Fire Brigades and Onsite Medical Response Teams

- Fire brigades and medical response teams must be trained to the level or type of emergency they will likely encounter. In most cases, certified training is required, and certifications must be maintained with periodic or annual refresher training.
- Team members must be physically capable of performing their duties (including the use of respiratory protection, where required). Employees with known physical conditions (e.g., heart disease, emphysema, or epilepsy) or known mental or physical disabilities that would impair their ability to perform the expected duties may be required to be certified by a licensed physician before being allowed to participate on the team.
- Teams must be provided with adequate equipment and protective clothing to perform their duties.
- Equipment and clothing must be maintained in good working order. Equipment removed from service must be promptly repaired or replaced, or team members must be informed that the equipment is no longer available.
- Teams must be organized, with elected or appointed leaders, and have specific written procedures that outline their responsibilities (and limitations) with regard to emergency response at the workplace.



Emergency Action and Fire Prevention Planning



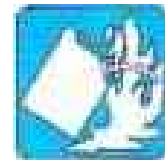
Classes and Types of Portable Fire Extinguishers

There are five classes, or types, of fire extinguishers.



Class A extinguishers may be used on ordinary combustibles (wood, paper, cloth, etc.). Extinguishers must be located 75 feet or less from the hazard.

Class B extinguishers may be used for flammable or combustible liquids (gasoline, paint, solvents, propane, etc.). Extinguishers must be located 50 feet or less from the hazard.



Class C extinguishers may be used for electrical equipment, and must be located 50 feet or less from the hazard.

Class D extinguishers may be used for metals (magnesium, potassium, and sodium). Extinguishers must be located 75 feet or less from the hazard.



Class K extinguishers may be used in industrial kitchens.

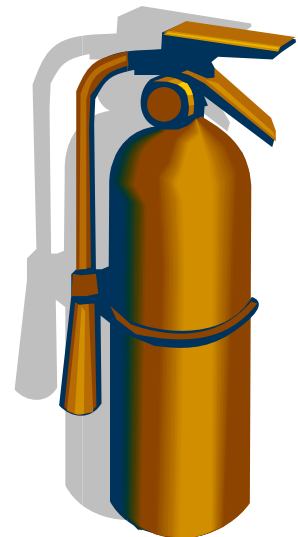
Emergency Action and Fire Prevention Planning



Portable Fire Extinguishers – General Requirements

Extinguishers must be located so they are clearly visible, readily accessible to the employees or persons designated and trained to use them, and protected from damage by moving equipment.

- Extinguishers must be maintained in a fully charged and operable condition and kept in their designated locations.
- Extinguishers must be appropriate to the type (or class) of fire hazard likely to occur in the work area.
- Standard signs and floor markings may be used to increase visibility.
- Extinguishers must be located along normal paths of travel, but protected from the direct line of traffic to avoid injury to personnel or mechanical damage.
- Extinguishers are not required in workplaces where all employees will be required to evacuate the facility (total evacuation) upon the initial alarm sounding, unless extinguishers are required by a specific regulatory standard (i.e., welding, confined space, and some flammable liquid usages).



Emergency Action and Fire Prevention Planning



Portable Fire Extinguishers – The PASS System

The PASS System

Pull

Pull the pin on the extinguisher.

Aim

Aim the extinguisher at the base of the fire.

Squeeze

Squeeze the trigger.

Sweep

Sweep the extinguisher back and forth along the fire.

Emergency Action and Fire Prevention Planning



The Two Extinguisher Rule

Fire extinguishers are for controlling small, incipient fires. NEVER should more than two extinguishers be used to control a fire. If the fire is not controlled by two extinguishers, it is no longer considered an incipient fire and should ONLY be extinguished by trained firefighters or by fixed fire suppression systems.



Emergency Exits and Egress



Design and Construction of Exits and Exit Routes

**Do NOT block the
exit door or path.**



**Do not hold doors open
with wedges or ties.**

Emergency Exits and Egress



Design and Construction of Exits and Exit Routes

(page 1 of 2)

Do not block an exit door or path.

Do not hold doors open with wedges or ties.

An exit route must:

- be permanent and use 1-hour fire resistant materials (two-hour rating for four or more stories). Doors are usually labeled near or on the edge by the hinges.
- have only those doorways necessary to allow access to the exit (or exit discharge) from occupied areas. Such doorways must be protected by an approved, self-closing fire door that remains closed or automatically closes when the alarm sounds.

Number of exit routes required:

- Two exit routes, located apart from one another, must be available.
- More than two exit routes must be available if the occupancy, building size, or space arrangements would prevent all employees from safely evacuating in an emergency.
- In some cases, a single exit route is permitted when all employees would be able to evacuate the space during an emergency.

Note: See NFPA 101, Life Safety Code for more assistance.

The capacity of an exit route must:

- support the maximum permitted occupant load for each floor served, and
- not decrease in size in the direction of exit route travel to the exit discharge.

Note: See NFPA-101, Life Safety Code for more information.

An exit route must meet minimum height and width requirements.

- Ceilings must be at least 7 feet 6 inches high with no projections (such as light fixtures) lower than 6 feet 8 inches.
- Exit access must be at least 28 inches wide at all points (including projections such as handrails).
- The exit discharge must be at least equal to the width of the exit door.
- Exit routes must be sufficient to accommodate the maximum number of people using it.

An outdoor exit route is permitted when:

- guardrails protect unenclosed sides if a fall hazard exists
- exit routes are kept free from ice, snow, or similar slipping hazards, or covered
- the route is reasonably straight and has smooth, solid, level walkways, and
- there are no dead ends longer than 20 feet (6.2 meters).

Emergency Exits and Egress



Design and Construction of Exits and Exit Routes

(page 2 of 2)

Exit discharge must:

- lead directly to an outside area or space with access to the outside
- be large enough to accommodate the building occupants likely to use the exit route, and
- have doorways, partitions, or other effective means within any exit stair to prevent employees from progressing past the level of exit discharge (for example, to a basement or below-ground level).

Note: Doorways that do not lead to an exit must be clearly labeled.

A side-hinged exit door must:

- be used to connect any room to an exit route, and
- swing out in the direction of travel when it connects any room to an exit route if:
 - it is designed to be occupied by more than 50 people, or
 - it is a high hazard area (for example, if it contains explosive, flammable, or hazardous materials).

Exit door requirements

- Exit doors must be unlocked from the inside.
- Exit doors that lock only from the outside must have panic bars.
- An exit route door may be locked from the inside only in mental, penal, or correctional facilities, if supervisory personnel are continuously on duty and a plan is in place to remove occupants from the facility during an emergency.
- Exit doors must be able to be opened from the inside at all times without keys, tools, or specialized knowledge.
- Exit doors must be kept free of alarms or other devices that would render it inoperable if the device fails.
- Exits must be kept free and clear. Nothing may block the door or path.



Emergency Exits and Egress



Fire Prevention

Smoke only in designated areas.



Store flammable materials in the right place.



Keep containers closed when not in use.



Good housekeeping lowers the risk.

Emergency Exits and Egress



Plan For An Emergency

- Know the alarm sounds or codes.



- Know how to respond.
 - ◆ Respond to the scene
 - ◆ Evacuate the building
 - ◆ Shelter in Place



- Where is the nearest exit to your work area? *It may not be the door you use every day!*



- Know where to go.

EMERGENCY EVACUATION AND FIRE RESPONSE

In the event of a fire:

- **Alert** people in the area of the need to evacuate
- **Activate** the nearest fire alarm
- **Call** Emergency Response at 911
- **Assist** others in need to safely evacuate

If a building fire alarm is sounding or you receive notification of a fire emergency:

Feel the door or doorknob to the hallway with the back of your hand. If it feels hot, do not open it – the fire may be on the other side of the door. If you are trapped, put a cloth or towel under the door to help prevent the entry of smoke. Dial 911 and tell the emergency dispatcher your location and telephone extension and that you are trapped in the room and need rescue. Stay on the phone until instructed otherwise. **If the door is not hot**, open it slowly. If the hallway is clear of smoke, walk to the nearest fire exit and evacuate via the nearest stairwell to the street/grade level exit. **Close doors behind you. Do not attempt to use elevators.** Elevator controls are normally tied into the fire detection system and are not available to occupants once the alarm sounds.

Assemble at the designated assembly point and remain there until instructed by emergency services or the fire department that it is safe to re-enter the building.

If you have been trained to use a fire extinguisher and feel that you can use it without putting yourself at risk:

- **Alert** people in the area.
- **Activate** the fire alarm.
- **Use** the correct fire extinguisher.
 - ✓ Pull the pin
 - ✓ Aim the nozzle at the base of the fire from a distance of 8' to 10'
 - ✓ Squeeze the handle/trigger
 - ✓ Sweep the nozzle/discharge from side to side
- **Maintain** an accessible exit.
- **Avoid** smoke and fumes.



Ergonomics



Awkward Postures

Awkward postures occur when employees work with various parts of the body in bent, extended, or flexed positions rather than in straight or neutral positions.

Working in awkward postures increases the exertion and muscle force workers must apply to complete a task, and it compresses tendons, nerves, and blood vessels.

In general, the more extreme the posture, the more force is needed to complete the task. Examples of awkward postures include performing overhead work, bending or twisting to lift an object, typing with bent wrists, and squatting or crouching.



Ergonomics



Bending the Elbow

- Repetitive elbow bending irritates nerves and tendons in the forearms.
- When possible, use machinery or tools to reduce stress on the elbow.



Ergonomics



Bent Wrists

- Prevent inflammation in the tendons of the wrist.
- Use bent or angled handles and hand-holds that allow work to be done with straight wrists.



Ergonomics



Contact Stress/Trauma

Contact stress results from the continuous contact or rubbing between hard or sharp objects/surfaces and sensitive body tissue, such as the soft tissue of the fingers, palms, thighs, and feet. This contact creates localized pressure for a small area of the body, which can inhibit blood flow, nerve function, or the movement of tendons and muscles.

Contact stress can be caused by:

- prolonged use of tools that vibrate, which can cause contact trauma in the palms and fingers, and
- standing for long periods of time, which increases the "static load" placed on the legs and back. Circulation is reduced, blood pools, and localized fatigue increases the longer employees must stand. Muscles and tendons become more susceptible to strain as they become fatigued from prolonged standing.



To reduce contact stress:

- use electric or power tools
- attach well-designed handles to tools
- wrap or coat tool handles and grips with cushioning material
- use palm pads
- use sit or stand stools to reduce the static loading on the legs and back, and
- wear shoes with thick or cushioned soles.

Ergonomics



Crouching and Kneeling

Some workers must frequently bend or crouch to reach the workspace or to lift materials. This kind of activity can contribute to poor circulation when a crouched position is maintained. It may injure the knees if workers are maintaining a kneeling position where the knees come in contact with the floor.



Ergonomics



Cumulative Trauma Disorder

Cumulative Trauma Disorders (CTDs) and Repetitive Motion Injuries (RMIs):

- Result of continued stress on specific joints, tendons, and muscles
- Can be controlled

The earlier CTDs and RMIs are identified and treated, the more likely you are to prevent a serious disability.

Risk Factors

- Frequent repetitive movements
- Great force or intensity used
- Poor posture and body position
- Improper workstation or environment



Ergonomics



High Hand Force

High hand force (gripping or squeezing) can cause muscle fatigue, tendon inflammation, and contact trauma.

Weight of hand tool – The heavier the tool, the more force is required.

Size of hand tool – Tools with good weight distribution are easier to hold and handle.

Handle or grip size – Tool handles that are too small or too big reduce the employee's grip efficiency, requiring more force and exertion to hold and use the tool.

Tool activation – The way tools are activated can also increase the amount of hand force employees must exert.

- Tools with squeeze triggers, such as scissors and staple guns, may require employees to apply a lot of muscle contraction in the hand and fingers, especially if the object to be cut is thick or dense.
- If the trigger of a tool is too small, the employee may only be able to use one finger to activate it. Where all the force to squeeze the activation trigger must be generated by one finger, the tendons may be overused to the point where fluid builds up, making it difficult to bend the finger to squeeze the tool.

Gloves – Vibration, cold temperatures, glove type, or improperly fitting gloves all contribute to the stresses on the hands and increase the amount of force required to use tools and perform activities.

Tools can be designed to reduce the amount of force required to use them.

Ergonomics



Lighting

Lights that are too dim or too bright can:

- cause eyestrain, headaches, and related vision disorders, and
- make employees perform their job functions more slowly.

Consider the effects of:

- overhead and task lighting
- glare
- work surface layout
- visual disorders and magnification, and
- bad work habits.



Ergonomics

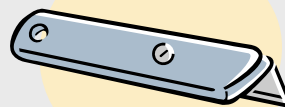


Opening Boxes

Use safety knives or ergonomic razor-knives that require less wrist bending and have substantial handles that require less finger force for control.



Not an ergonomically correct knife



Ergonomics



Prevent Cumulative Trauma (1 of 2)

- **Stretch arms, hands, legs, and back for 5 minutes each day before starting work.**
- **Change positions frequently during the day.**
- **Take short breaks and do hand exercises frequently.**



Ergonomics



Prevent Cumulative Trauma (2 of 2)

- Stretch arms, hands, legs, and back for 5 minutes each day before starting work.
- Change positions frequently during the day.
- Use adjustable seating.
- Use appropriate work surfaces.
- Ensure appropriate workstation setup and placement of supplies.
- Rest and take exercise breaks frequently.
- Stand and stretch regularly.



Ergonomics



Reaching

A number of tasks require employees to work with their hands above their head or shoulders, their arms extended full length, or their elbows raised out from their body. These kinds of tasks place stress on the shoulders, elbows, and back, and can result in an injury.

Elevated and extended reaches can also contribute to injury.

To reduce reaching hazards:

- use ladders and lifts to reduce reaching
- use bent-handled tools that allow straight wrists and elbows to be close to the body, and
- place pallets and other materials on lifts or turntables to enable access to them from the proper height or from the side.



Ergonomics



Telephones

To reduce stress from constant telephone operation, use:

- headsets
- hands-free options, or
- extended handsets.



Ergonomics

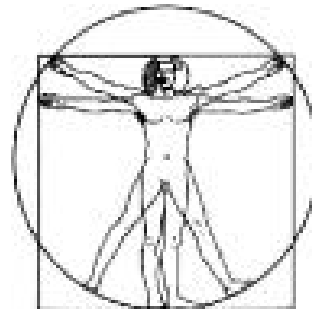


What is Ergonomics?

- The study of people at work
 - *Ergo* = work
 - *Nomics* = the laws of operation or mechanics
 - *Ergonomics* = the study of the mechanics of the body at work

- Designing the job with the user in mind
 - Consider the interaction of man, machine, and the environment.

- The goal is to provide a comfortable, pain-free work environment.



Ergonomics



What is Force?

Force is performing essentially the same motion or motion pattern over and over again with little variation in task assignment, sometimes with strain on the muscles from pushing or pulling.



Repetitive motion tasks often involve the use of only a few muscles, tendons, and body parts, which can become strained when the same motion is repeated frequently and often (every few seconds) or for prolonged periods (for several hours at a time, the entire work shift, or day after day) without adequate recovery time.

The severity of risk depends on how often the motions are repeated, the speed of the motions, the force required to perform the motions, and the number of muscles involved.

Ergonomics



Work Station Setup

Head and neck in upright position, slightly bent

Upper arms close to body with **elbows** bent slightly forward

Shoulders down, relaxed, and even

Forearms parallel to the floor

Feet resting flat, **thighs** parallel to the floor, and **lower legs** unhindered

Wrists and hands in a straight line from the third finger to the elbow



First Aid and Emergency Response



Employee Responsibilities – Medical Services and First Aid



Know the emergency response procedures and processes for the company, including:

- how to summon assistance, and
- how to notify your supervisor.



Know the location of any first aid supplies.



Know the location of the eyebath or safety shower station.



If you are a response team member, attend training classes as required. Minimum training requirements include First Aid/CPR and Bloodborne Pathogens Exposure.

First Aid and Emergency Response



1 of 2

Industrial Burns – Types of Burns



Correct assessment of a burn's severity is one of the first critical steps in properly treating and managing the injury. Burns are classified both by their depth and the amount of body surface area injured.

First-Degree Burns

These burns involve only the outer layers of the epidermis. Characterized by redness, itching, and burning, these burns are generally considered minor and don't usually require the attention of a physician. Mild sunburns are typical first-degree burns.

Second-Degree Burns

These burns damage both the epidermis and the dermis (second layer of skin). They cause blisters and are prone to infection, often requiring medical attention. Second-degree burns are also sub-classified as superficial or deep dermal, depending on the extent of injury. Burns are also described by their cause, such as thermal, chemical, electrical, radiation, or flash.

Third-Degree Burns

These burns destroy both the epidermis and the dermis. They are distinguished by their dry surface and pearly white or charred appearance. Third-degree burn patients often experience no pain following their injury because nerve endings are impaired. Third-degree burns always require the attention of a hospital burn center.

First Aid and Emergency Response



2 of 2

Industrial Burns – Types of Burns

▪ Thermal (Heat) Burns

Thermal burns are caused by contact with substances at temperatures above the boiling point of water. These burns often occur in conjunction with other types of burns.

▪ Chemical Burns

Chemical burns are caused by contact with materials such as sodium hydroxide, phenol, and sulfuric or hydrochloric acid. These corrosive substances generate heat, creating a thermal burn in addition to a chemical burn.

▪ Electrical Burns

Electrical burns are common among gas and electrical workers and are also considered thermal burns because heat is created while the current passes through the body. These burns are more treacherous than they first appear because the body conducts the electrical current to the heart, muscular system, and vascular system causing extensive internal damage. Because they may be electrocuted themselves, bystanders are strongly cautioned against touching these types of burn victims until the electrical source has been removed.

▪ Radiation Burns

Sunburns are the most common type of radiation burns. Other sources of ultraviolet or nuclear radiation can also cause burns.

▪ Flash Burns

Flash burns, usually minor cornea injuries, are caused by looking directly into an extremely bright light. Welders and those working with high-powered electrical equipment often experience this type of burn. Flash burn symptoms include watery eyes, searing pain, and photophobia (a marked sensitivity to light) occurring four to six hours following the injury. Although flash burns are regarded as more of an annoyance than a serious injury, prolonged exposure to a powerful light source without protective eyewear can result in permanent blindness.

Housekeeping



Walking and Working Surfaces

- All places of employment, passageways, storerooms, and service rooms must be kept clean, orderly, and in a sanitary condition.
- The floor of every workroom must be maintained in a clean and dry (when possible) condition. Where wet processes are used, drainage must be maintained; and where practical, false floors, platforms, mats, or other dry standing places should be provided.
- To facilitate cleaning, every floor, working place, and passageway must be kept free from protruding nails, splinters, holes, or loose boards.



Material Handling



Stacking Different Types of Materials

General – Stack containers together that are alike (boxes with boxes, bags with bags). Strap them if needed. Be careful containers do not shift when they are moved.



Glass Bottles and Jars – Place glass bottles and jars inside boxes or cartons, or use spacers or cardboard between rows.



Cases and Boxes – Stack cases and boxes upright. Strap or bond them if possible. Upper rows may not hang farther out than the lower rows or they will tip over.



Bags – Stack bags as flat as possible in rows. Use spacers or cardboard between layers, or crisscross the pattern to provide more stability.

Cartons – Try to stack heavier cartons on the bottom. Use spacers or cardboard between rows if possible.

Bales – Stack bales so they lean into their center.

Coiled Wire – Lay coiled wire flat. Use wedges on the side if needed or tie the stack to prevent spreading.



Piping and Tubular Materials – Piping and tubular material should be placed in special racks with side bars or stakes to prevent shifting, rolling, or collapse. Always remove the material from the top to keep the stack stable.



Sheet Materials – Sheet materials may be stored flat. When flat storage is impossible, side supports or bottom wedges should be used to prevent the stacks from sliding outward.

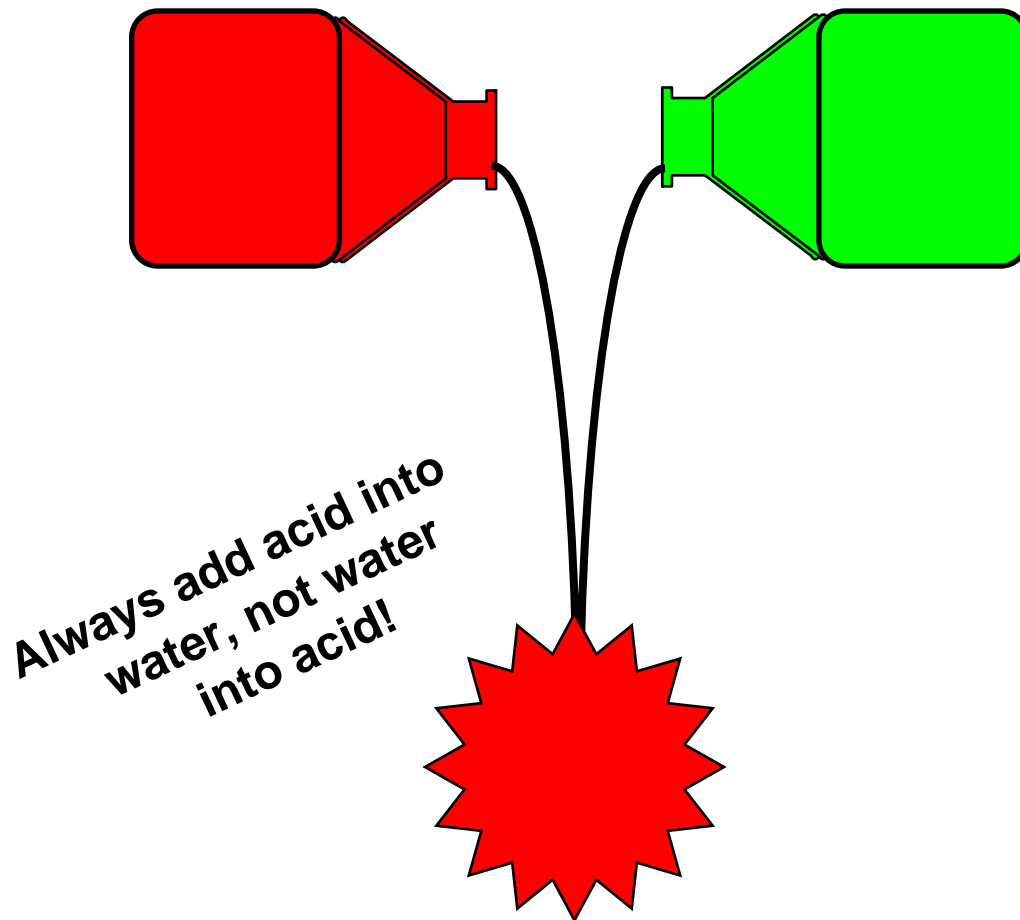
Drums, Casks, and Cylinders – Drums, casks, and cylinders should be stored and stacked upright, unless a specialized racking system is used.



Handling Corrosive Liquids



Check for Compatibility!



A violent reaction may take place and extreme heat may be released when an acid and a base are mixed together.

Handling Corrosive Liquids



Personal Protective Equipment

What type of equipment is needed and why?

- **Safety glasses with side shields** prevent chemical splashes into the eye. They are the minimum requirement for handling chemicals.



- **Chemical safety goggles** are required when large amounts of chemicals are handled or poured. Goggles provide a full range of protection for the eye area.

- **Face shields** are required when corrosive chemical splashing or spattering could occur. Face shields protect the entire facial area from exposure to the splashing chemicals.



- **Gloves** (preferably longer gloves that provide protection to the forearm) are required to protect the employee's skin (hands and forearms) and clothing from contact with chemicals. Chemicals that contact clothing can soak into the cloth and continue to irritate or damage the skin of the arms or body.

Hazard Communication and SDS



Access to Safety Data Sheets (SDS)



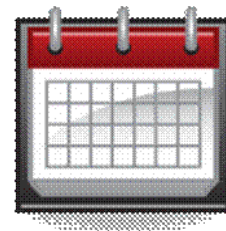
SDSs should be accessible to you at all times in emergency situation. SDSs may be kept at one primary location, if there are multiple locations or job sites.

SDSs may be kept in either hard copy or electronic form, as long as they are accessible.

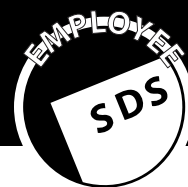


If you request a copy of an SDS in a non-emergency situation, your company must provide that within 8 working hours.

If you request a copy of an SDS to keep, your company has 15 days to provide it to you.



Hazard Communication and SDS



Employee Information

Employers must provide employees with effective information on hazardous chemicals in their work area.

Information must be provided at the time of initial job assignment and whenever a new physical or health hazard is introduced into the work area.

Information may be designed to cover categories of hazards (such as flammability or carcinogenicity) or specific chemicals.

Chemical-specific information must always be available through labels and safety data sheets.

Information must include:

- the requirements of the standard
- the areas where chemicals are used, and
- the location of the written program, the chemical list, and safety data sheets.

Hazard Communication and SDS



General Applicability

Your Right to Know

You have the right to know about the hazards of any chemicals you work with and how to best protect yourself from those hazards.

You must be trained, your company must maintain a written plan and safety data sheets, and chemical containers must be clearly labeled.



Hazard Communication and SDS



The Parts of an SDS

Section 1, Identification includes product identifier; manufacturer or distributor name, address, phone number; emergency phone number; recommended use; restrictions on use.

Section 2, Hazard(s) identification includes all hazards regarding the chemical; required label elements.

Section 3, Composition/information on ingredients includes information on chemical ingredients; trade secret claims.

Section 4, First-aid measures includes important symptoms/ effects, acute, delayed; required treatment.

Section 5, Fire-fighting measures lists suitable extinguishing techniques, equipment; chemical hazards from fire.

Section 6, Accidental release measures lists emergency procedures; protective equipment; proper methods of containment and cleanup.

Section 7, Handling and storage lists precautions for safe handling and storage, including incompatibilities.

Section 8, Exposure controls/personal protection lists OSHA's Permissible Exposure Limits (PELs); Threshold Limit Values (TLVs); appropriate engineering controls; personal protective equipment (PPE).

Section 9, Physical and chemical properties lists the chemical's characteristics.

Section 10, Stability and reactivity lists chemical stability and possibility of hazardous reactions.

Section 11, Toxicological information includes routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity.

Section 12, Ecological information*

Section 13, Disposal considerations*

Section 14, Transport information*

Section 15, Regulatory information*

Section 16, Other information, includes the date of preparation or last revision.

*Note: Since other Agencies regulate this information, OSHA will not be enforcing Sections 12 through 15(29 CFR 1910.1200(g)(2)).

Hazard Communication and SDS



What Chemicals are Included?

IF...

you have only “consumer products”
(those you can buy at a grocery store)

AND...

you use them ONLY as they are
intended

THEN...

you do not need to comply with the
hazard communication requirements.



Any other use, handling, or storage of chemicals for production or manufacturing (or any liquid medications used in the medical industry) are covered under the regulation.

Material Handling



Materials Segregation

- Keep flammable liquids, gas cylinders, aerosols separated from other materials.
- Keep reactive materials (such as acids and bases) separate from each other.
- Keep flammable materials out of direct sunlight.
- Separate hazardous materials by type of material (flammable, corrosive, or other designation). Check the labels and symbols on the containers.
- If flammable materials are open to the air, do not use electrical equipment in the same area.
- Always know what type of gloves and other personal protective equipment are needed, and use them.
- Store compressed gas cylinders upright and secured with chains or straps, or store them in a specialized racking system. Keep them away from direct sunlight, if possible.
- Make sure all materials and containers have labels on them. Labels should include the name of the manufacturer, the name of the material, and either numbers or symbols that indicate the hazards of the material.



Communication of Chemical Hazard

Why chemical safety and the need for Hazard Communication?

- Ø Millions of workers are exposed to chemicals on a daily basis.
- Ø There are approximately 1 million existing chemical products.

Concern over protecting workers against the harmful effects of chemical exposures prompted OSHA to issue the Hazard Communication Standard. The OSHA hazard communication regulation 29CFR1910.1200 is commonly referred to as the “**Right To Know**” standard.

The standard is based on a simple concept that you have both a need and a right to know the hazards and identities of the chemicals you are exposed to when working.

Chemical exposure may cause or contribute to many serious health effects such as heart ailments, central nervous system, kidney and lung damage, sterility, cancer, burns, and rashes. Some chemicals may also be safety hazards and have the potential to cause fires and explosions and other serious accidents.

WRITTEN HAZARD COMMUNICATION PROGRAM	
The purpose of this written program is to document how the Hazard Communication requirements are met.	
General:	_____ is responsible for the initial and ongoing activities to keep this hazard communication program current.
The location of the written program is:	_____
The location of the list of hazardous chemicals is:	_____
The location of the Safety Data Sheets (SDS) is:	_____
The list of hazardous chemicals, the written program, and the SDSs are required to be accessible to employees at all times. If electronic access is provided, describe the process for accessing this information: _____	_____
If an SDS is not received at the time of purchase or shipment, an SDS will be obtained either through the manufacturer's website, by calling the manufacturer or supplier, or by writing the company. If the SDS is not available, OSHA may be contacted or notified. _____	_____ is responsible for ensuring that SDSs are received.
Hazard Warning Labels:	
Original manufacturer's labels are general used to ensure updated information on chemical hazards is made available. _____	_____ is responsible for ensuring that all hazardous chemicals in the workplace have appropriate labels (original manufacturer's labels, or reprinted labels such as MSDS, NFPA or NIOSH color labels affixed to our company. If alternative systems to the hazard warning statements are used, describe the system used: _____
_____	_____ is responsible for ensuring any containers shipped or taken off our company premises have appropriate labels, which include the identity of the chemical, appropriate hazard warning statements, and the name and address of manufacturer or responsible party.
SDS for Company Made or Manufactured Chemicals:	
_____	_____ is responsible for ensuring that SDSs are created and written for every hazardous chemical that the company makes, mixes or manufactures.
_____	_____ is responsible for ensuring that any SDSs are shipped to another company who purchases or is provided with our company-specific chemicals or mixtures.

The basic requirements of the Hazard Communication standard are:

- A written hazard communication program maintained by your employer and made available to you
- A list of hazardous chemicals used or stored in your workplace
- A copy of Safety Data Sheets (SDS) for each chemical (obtained from the manufacturer)
- Training for you to include how the program is implemented in your workplace, reading, understanding and how to use labels, SDS, and procedures on how to work safely with and protect yourself from chemical hazards

Chemical Hazard Communication.

YOUR RESPONSIBILITIES FOR CHEMICAL SAFETY AT WORK

Know where your Hazard Communication written program is kept and that you can reviewed it at anytime. The program includes:

- ✓ A list of hazardous chemicals
- ✓ Labeling requirements
- ✓ The use & purpose of SDS
- ✓ A description of your training requirements and process
- ✓ Contractor requirements and non-routine tasks



Before starting any task when working with chemicals, identify the hazards by reading the labels and SDSs for those chemicals. Be familiar with and follow your employers instructions and warnings regarding the chemicals you are working with. SDSs should be accessible to you at all times in an emergency situation and you should be familiar with their location. SDSs may be kept at one primary location, if there are multiple locations or job sites and can be either hard copy or electronic.

KNOW THE HAZARDS

Physical Hazards are sudden violent reactions such as an explosion or fire. Some examples are:

Flammable -flash point 100 f or less

Reactive - mixing chemicals together will result is extreme heat given off, a gas, or explosion

Oxidizer- means a chemical that gives off oxygen in a fire or heat situation, causing the fire to burn harder, stronger and faster

Explosive - is a chemical that causes a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperature

Health Hazards means the ability of a chemical to affect your health either quickly (acutely) or over a long period of time (chronic). Some examples are:

Corrosives – a substance that destroys or changes skin tissues on contact

Carcinogen is a substance that may cause cancer

Toxic which can cause damage to human organs

Irritant can harm the skin, lungs or eyes at the sight of contact

Sensitizer is an allergic reaction in normal tissue after repeated exposure to the chemical

Target organ effects is a substance that damages a specific body organ or system such as the liver, kidneys, reproductive system or central nervous system



Exposure to chemical hazards can be through various routes of entry including:

Inhalation – absorbed through the lungs into the bloodstream

Absorption - absorbed through the skin or eyes

Ingestion - absorbed through the gastrointestinal tract from eating, drinking or smoking

Injection – can get in your body by broken glass, spray guns, needles, compressed air, knives etc.

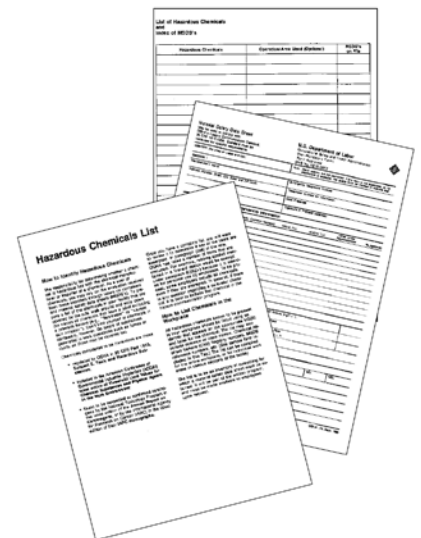
In the event of a release you should know what actions to take to protect yourself as well as clean up the chemical following a release or spill.. A release can be detected by monitoring devices/detectors, can be visible or detected by irritation to your eyes, nose or throat or can be audible as in the sound of pressurized gas leaking.

Chemical Hazard Communication

READING SDSs

SDS can vary in format from one manufacturer to another and contain technical information. Nevertheless it is your responsibility to read the SDS of the chemicals you work with in their entirety. With experience you will become more familiar with locating and understanding information contained in them. They are divided into the following information categories:

1. Identification of the substance or mixture and of the manufacturer or supplier
2. Hazards identification and classification
3. Composition/Information on ingredients
4. First aid measures
5. Firefighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure controls and 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 and revision date



Manufacture 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 Safety Data Sheet for further details regarding safe use of this product.

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

The Manufacture label has 6 primary parts:

1. **Product identifier** – chemical name or number used for a hazardous chemical.
2. **Signal word** – a word used to indicate the relative level of severity of hazard. The signal words are Danger (more severe hazards) and Warning (less severe hazards)
3. **Hazard statement(s)** – a statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriated the degree of hazard.
4. **Pictograms** – a symbol intended to convey specific information about the hazards of the chemical. *The Pictograms must have a red border.*
5. **Precautionary statement** – a phrase that describes recommended measures to be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical or improper storage or handling of a hazardous chemical.
6. **The chemical manufacturer's information** - name, address and telephone number or other responsible party's information.

GHS Pictograms

Pictograms alert users of the chemical hazards to which they may be exposed. Each pictogram represents a distinct hazard(s). The pictogram on the label is determined by the chemical hazard classification.



•Oxidizers



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



•Explosives
•Self Reactives
•Organic Peroxides



•Acute toxicity (severe)



•Corrosives



•Gases Under Pressure



•Carcinogen
•Respiratory Sensitizer
•Reproductive Toxicity
•Target Organ Toxicity
•Mutagenicity
•Aspiration Toxicity



•Environmental Toxicity



•Irritant
•Dermal Sensitizer
•Acute toxicity (harmful)
•Narcotic Effects
•Respiratory Tract
•Irritation

Electrical Safety



Safeguards for Personal Protection

Use of Personal Protective Equipment

Electrical protective equipment appropriate for the work must be provided and used to protect employees.



Protective equipment must be maintained in a safe, reliable condition, and be periodically inspected or tested. If the equipment is insulated, the insulation must be frequently inspected to ensure it remains capable of providing adequate protection (for example, an outer covering of leather is sometimes used for the protection of rubber insulating material).

Specialized hard-hats, eye or face protection, and gloves may be required if there is a danger of head injury from electric shock or burns due to contact with exposed energized parts, from arc flashes, or from flying particles due to an electrical explosion.

Tools and handling equipment must be insulated if it is likely they will be in contact with live parts. Specialized equipment and tools may be required to remove or install fuses. Any rope or hand-lines must be made of non-conductive materials.

Protective shields, protective barriers, or insulating materials may be required to protect employees from shocks, burns, or other electrically related injuries while working near exposed energized parts or where dangerous electric heating or arcing might occur. When live parts or circuitry that are normally enclosed are exposed for any reason, they must be guarded by barriers or shielding to prevent employee contact.

- Safety signs, safety symbols, or special tags may be necessary to warn employees about electrical hazards that may endanger them.
- Barricades (non-conductive) may also be required in conjunction with safety signs to prevent employees from being exposed to live electrical hazards.
- Attendants may need to be stationed to warn employees where signs and barricades do not provide sufficient warning and protection.

Eye Safety

Each day more than 2000 people injure their eyes at work and 10-20% of those will have temporary or permanent vision loss. It is estimated that 90% of these eye injuries could have been prevented.

Common Causes Of Eye Injury Include:

- Flying objects
- Chemicals
- Dust
- Bright light
- Tools



Safety Glasses, Goggles Or Face Shields Should Be Used:

- When using chemicals for any splash hazard
- When using hand or power tools
- For welding, grinding or cutting

Using The Appropriate Protection:

- Safety Glasses: Provide the least amount of protection of all eyewear; they have impact resistant lenses and should have side shields
- Safety Goggles will protect from dust, splashes and impact.
- Face Shields are normally used for chemical splash protection but do not provide adequate eye protection from impact. Must be used with either glasses or goggles to protect the eyes.
- Welding shields: Must be used when welding, brazing, soldering or cutting

Remember:

- All eye protection equipment should be inspected daily and fit properly. If there are cracks or breaks anywhere do not use them.
- KEEP THEM CLEAN
- Never look at welding without proper protection
- Don't use tinted safety glasses inside
- Normal street glasses are not Safety Glasses. Tell your optometrist you need industrial safety glass lenses.

If you have something in your eye:

- Do not try to remove something from your eye, seek medical attention.
- Chemicals in the eye require flushing with water for at least 15 minutes and then get medical attention.

Foot Protection

While proper footwear is important for all employees, regardless of their job, some jobs require specific protection. When working in areas where there is a danger of foot injuries due to falling or rolling objects, objects piercing the sole or where employees feet are exposed to electrical or chemical hazards, proper footwear is required.

We are all aware of safety shoes, but there are other protective items that might be needed such as leggings, metatarsal guards, toe guards, and even more specialized protection for those working around electricity. In some cases the only protection required is a slip resistant sole. Your supervisor or manager will tell you which is required for your job.

Sometimes employees may question the need for safety shoes. "If my foot gets run over by a forklift, the shoe won't do any good," said one worker. This is true. However, they are being used to protect against other hazards, such as heavy boxes falling off of storage racks. Actually, OSHA says that the typical foot injury is caused by objects falling from heights of less than four feet.

Once you have the right protective foot-wear it is important: to conduct a pre-use safety check each day to include:

- No holes or tears
- No separation between the sole and upper part of shoe
- Shoes are not wet or damp
- Shoes have good tread
- Laces are not too long, or frayed

Other things to consider:

- Keep your socks dry
- Keep feet away from rolling equipment
- Select footwear with good ankle support
- If working in wet areas, wear slip resistant boots



HAND SAFETY

HAND PROTECTION

Dressing, eating, driving, reading, writing, helping your child....all these require the use of your hands. They are one of your most valuable possession and need protection.

Hazards include:

- Sharp objects
- Chemicals
- Extreme heat or cold
- Electricity
- Machines
- Vibration



Hazard controls include:

- Gloves
- Machine Guards
- Proper Tool Handling
- Lockout/Tagout



A smart worker will:

- Look for hand hazards before performing a task
- Never use a machine or tool without its guards in place
- Check gloves before use and replace as necessary
- Wear gloves that fit properly
- Use the correct glove
- Wash their hands after using any chemical
- Use push sticks or shut down machine and lock out before un-jamming or cleaning machinery
- Store sharp tools properly



Never put your hands where you cannot see them without checking for hidden hazards.
Get immediate first aid for all cuts and bruises.

HEARING SAFETY



HEARING PROTECTION



Someone says “I Love You”, someone says “Look Out!”. Did you hear them? Will you hear them in 5 years? Hearing loss is something you can never regain once it is lost, and hearing loss creeps up slowly. As a normal part of aging you will probably lose half your hearing by your 65th birthday, but what about if you are exposed to high noise levels repeatedly when you are younger? The loss will be quicker and more severe if you don’t take action now. Even temporary hearing shifts do not totally recover.

High Noise Exposures:

The rule of thumb is if you have to shout or yell to be heard, the noise is too loud. Some example of high noise exposures are machinery, loud music, lawn mowers, power tools, firearms. Hearing loss depends on how loud the noise is and how long you are exposed.

Safe Workers:

- Obey rules regarding hearing protection at work
- Wear hearing protection when working with power equipment at home
- Use the appropriate protection (plugs, ear muffs or a combination)
- Keep the protection clean and replace as needed
- Participate in their company’s hearing protection program

Warning Signs:

- Ringing or buzzing in the ears after exposure to loud noise
- Sound is “muffled” for a time

To be effective hearing protection must be used when needed, used properly, clean and in good condition.

Personal Protective Equipment (PPE)



Equipment Access and Maintenance

Supplies, storage, and access to PPE must be available to you when it is required for a specific work area or operation.



PPE must be maintained in a sanitary and reliable condition. Damaged or defective PPE must be taken out of service and not used. Contaminated clothing and PPE must be disposed of or cleaned properly.

Personal Protective Equipment (PPE)

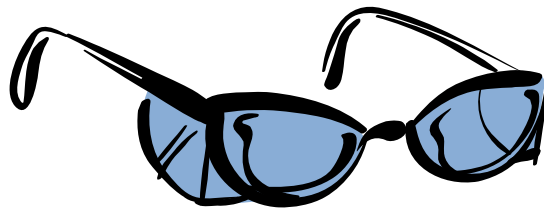


Equipment Access and Maintenance

Wear your eye protection!



You only have one set of eyes.



Protect them!

Personal Protective Equipment (PPE)



Equipment Access and Maintenance

Protect your hands!



Use the correct type of gloves.

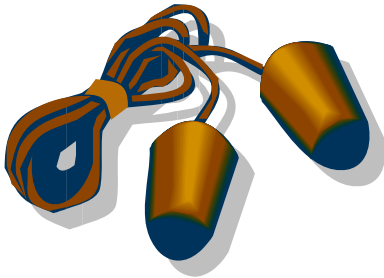


Personal Protective Equipment (PPE)



Equipment Access and Maintenance

Use your hearing protection!



Noise you are exposed to today, if it does not have an immediate effect, may not be noticed for up to ten years.

Personal Protective Equipment (PPE)



General Information

- Personal Protective Equipment (PPE) must be used in areas where there is potential exposure to hazards that cannot be adequately controlled.



- PPE is considered the last line of defense against exposure to chemical hazards, radiation hazards, biological agents, temperature extremes, noise, electrical energy, mechanical forces, irritants, or projectiles that can produce injury or illness.





Gloves and Hand Protection

Gloves, gauntlets, and protective sleeves are designed to protect the hands and arms of individuals who may be exposed to skin hazards from chemical or biological agents, cuts or lacerations, abrasions, punctures, chemical burns, thermal burns, or harmful temperature extremes.

- Chemical-resistant gloves must be appropriate for the type chemical used.
- Barrier creams cannot be used as protection against chemical contact unless specifically approved by a medical professional.
- Laundering of gloves used for chemical or biological protection is prohibited.
- Jewelry should not be worn with gloves.
- Gloves must be removed properly to ensure an unprotected hand or part of the arm is not exposed.
- After removing gloves, hands must be thoroughly washed with soap and water.
- When sharing gloves, use disposable gloves as a liner.
- Cuff the ends of gloves when feasible.
- At a minimum, disposable gloves used for splash protection must be disposed of at the end of each working day. Chemical contact, signs of physical wear, or loss of glove integrity requires more frequent disposal.
- Gloves should be properly stored away from sunlight, direct artificial light, and electrical equipment.
- Lay the gloves flat and avoid temperature and humidity extremes during glove storage.
- Employees with allergies may require powder-free gloves or gloves made of non-latex materials.



Hard Hats and Head Protection

Hard hats are designed to provide protection against impact and penetration from falling objects. The type and classification of required hard hats must be documented, and all equipment must comply with ANSI-Z89.1.

- **Bump Caps** provide protection from impact against stationary objects but do NOT protect against impact or penetration from falling objects or electrical shock hazards.
- **Hard Hats** provide protection from impact against stationary objects and against penetration from most falling objects. Some specially rated hard hats also protect against electrical shock hazards.
- **Welding Helmets** provide protection against ultraviolet, infrared, and visible radiation sources during welding operations.
- **Fire Fighting Helmets** provide protection from extreme heat encountered during a fire or similar conditions.
- **Hair Nets or Hats** protect employees from entanglement hazards, such as equipment with moving parts.

Head protection must be kept clean and maintained according to the manufacturer's instructions.





Protective Clothing

Clothing such as suits, aprons, coveralls, coats, and pants must be made available to protect the torso and body of individuals who may be exposed to skin absorption from chemical or biological agents, cuts or lacerations, abrasions, punctures, chemical burns, thermal burns, or harmful temperature extremes.

- Materials used in the manufacture of such clothing must be matched in resistance to the chemicals or materials being handled.
- Laundering of company-issued work clothing must be provided whenever there is a potential for chemical contamination, such as asbestos, lead, cadmium, arsenic, sensitizers, or biological hazards, so employees will not need to launder clothing at home.





Signs and Warning Devices



Signs must be posted to warn employees and other personnel when protective equipment is required.

Ventilation



Abrasive Blasting Personal Protective Equipment



NIOSH-approved abrasive-blasting respirators are required:

- when working inside of blast-cleaning rooms
- when using silica sand in manual blasting operations where the nozzle and blast are not physically separated from the operator in a ventilated enclosure, or
- where concentrations of toxic dust dispersed by the abrasive blasting may exceed the 5 mg/m³ limits and the nozzle and blast are not physically separated from the operator in an exhaust-ventilated enclosure.



Dust-filter respirators may be used to protect the operator of outside

abrasive-blasting operations where non-silica abrasives are used on materials having low toxicities.



Operators who must enter an abrasive blasting area must be equipped with heavy canvas or leather

gloves and aprons or equivalent protection to protect them from the impact of abrasives. Safety shoes must be worn to protect against foot injury where heavy pieces of work are handled.



Properly fitted particulate filter respirators may be used for short, intermittent,

or occasional dust exposures (such as cleanup, dumping of dust collectors, or unloading shipments of sand at a receiving point) when it is not feasible to control the dust by enclosure, exhaust ventilation, or other means. The respirators used must be approved by NIOSH for protection against the specific type of dust encountered.



Equipment for protection of the eyes and face must be supplied to the operator

and to any other personnel working in the vicinity of abrasive blasting operations when the respirator design does not provide such protection.

Driving Safety

Driving conditions contribute to accidents.

Light – day vs night, dusk, sunrise/sundown, headlights and glare

Weather – rain, snow, hail, ice, bright sun, extreme heat are conditions that affect how you drive

Road – conditions of road, potholes, type of road, width number of lanes, hills

Traffic – who is around you. There is a difference between traffic and congested traffic

Vehicle – condition of the vehicle

Driver – your mood and physical condition can affect your judgment and reactions

1. Expand your Look-Ahead Capacity – Focus on more than the car ahead of you.

Increasing your visual lead time in the same way you gauge following distance.

Measure by looking ahead at a stationary object and counting the seconds before you pass it – you should strive for more than 10 or 12 seconds visual lead time

2. Size Up the Whole Scene – Know hazards ahead, to the sides and behind you.

This involves 360 degree awareness by checking mirrors frequently (at least every 10 seconds) glancing left right and ahead. Avoid visual barriers i.e. large trucks or

vehicles that reduce your 360 degree awareness. Following distance should be at least 4 seconds.

3. Plan an Escape Route – Traffic tends to travel in clusters. Plan an escape route by maintaining a

“safety cushion” from other vehicles traveling near you – slow down, or change lanes. **CONTROL**

TAILGATERS – reduce speed, move to the right or wave them around and allow them to pass.

4. Signal Your Intentions Early – Give others enough time to prepare to adjust what they are doing to accommodate the change that you will be making.

5. Take Decisive Action – Know what you are going to do before you

do it with an awareness of other vehicles and sufficient space and opportunity to make decisions.

BACKING – Accidents while backing up represent ¼ of all accidents.

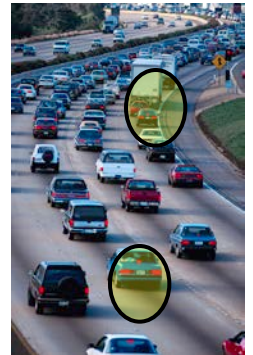
Adjust and use your mirrors but also turn your head to see blind spots.

Avoid the need to backup whenever possible when parking.

PASSING – Read the road ahead prior to pulling out to pass, move to the right to allow others to pass

CELL PHONE USE AND TEXTING – These are distractions that continually lead to tragic accidents.

Remain focused on the road and the task of driving safely, pull off the road if you must use these devices



Safe Driving



Causes of Accidents

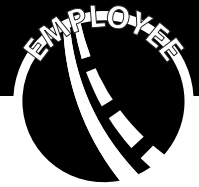
The three most common causes of expressway accidents are:

- Tailgating
- Lane changes, and
- Merging on or off.



Speed adds severity to any accident but is usually not the primary cause.

Safe Driving

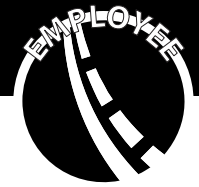


Controlling Tailgating

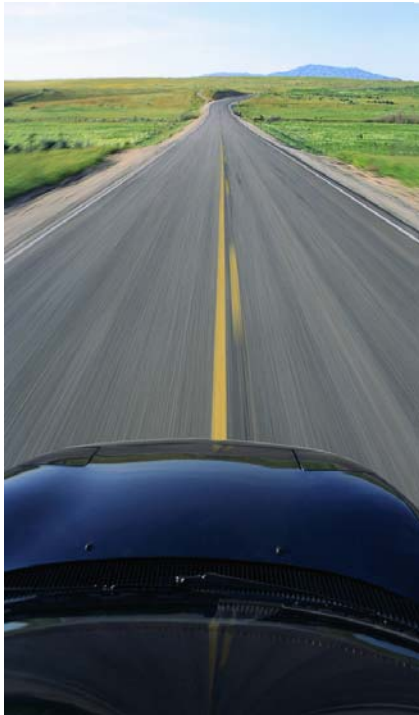


- Reduce your speed without putting on the brakes: decelerate.
- Move to the right of your lane or move into the right lane if there is one.
- Indicate to them by waving your hand that it is okay for them to pass you.
- If unsuccessful, exit or turn on to a side street to let them go by.

Safe Driving



The Five Steps to Decision Driving



- **Expand your look-ahead capacity.**
What is ahead of the car in front of you?
- **Size up the whole scene.**
What other hazards are around you and what are your options?
- **Indicate your intentions early.**
Try to give others enough time to react to what you are doing.
- **Plan an escape route.**
What is behind you if you stop or to the side of you if you swerve?
- **Take decisive action.**
Know what you are going to do and then do it!

Safe Driving



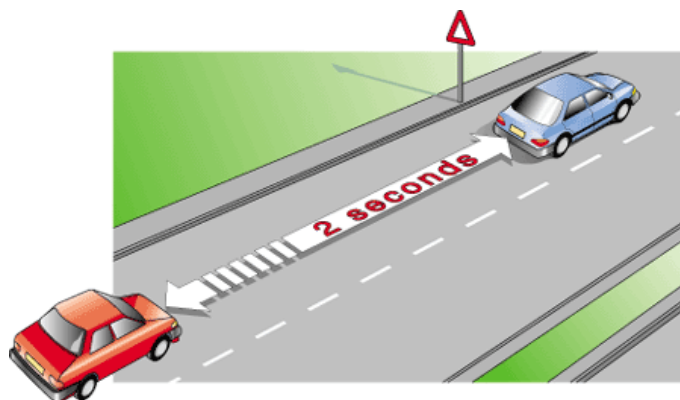
A Combination of Four Factors

- **Physical ability**
 - The general state of your overall health
 - Physical limitations
 - Coordination
 - Reflexes (reaction time)
 - Attention span
 - Impairment (drugs, alcohol, fatigue, stress, medications)

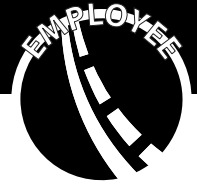
- **Driving skills** (yours and theirs)

- **Attitude** (yours and theirs)

- **The vehicle** (brakes or safety checks)



Safe Driving



Passing Safety



- If you must exceed the posted speed limit, you should not pass.
- You must have the time and the space to pass.
- You must have enough space to re-enter your lane after passing.

Safe Driving



Right of Way



- No one has the right of way. It must be given to you by the other driver.
- The law identifies who should yield the right of way to another driver.

Safe Driving



The Six Driving Conditions

According to the National Safety Council, there are six conditions that affect driving. They are:



- the amount of light and glare
- the weather
- the road conditions
- the traffic conditions
- the condition of your vehicle,
and
- your ability, as the driver.

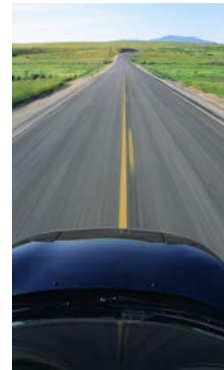
Safe Driving



Stopping Distance

The required vehicle stopping distance depends on:

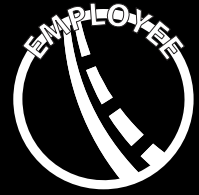
- the speed of the vehicle,
- the reaction time of the driver (are you distracted?)
- the time it takes the brakes to stop the vehicle (are the brake pads in good shape?), and
- weather conditions.



Tailgating accidents occur because the distance between you and the car ahead of you is less than your reaction time. Your perception of a dangerous situation and your ability to react to it is variable based on both your age and your driving experience level. (Younger people react more quickly than older people. More experienced drivers react or perceive the danger more quickly than younger, more inexperienced drivers).

Speed	Time to React	Braking	Total Stopping Distance
20 mph	22 feet	22 feet	44 feet
40 mph	44 feet	80 feet	124 feet
55 mph	60 feet	165 feet	225 feet
65 mph	75 feet	224 feet	300 feet

Safe Driving



Preventing a Head-on Collision: The Four R's

Read	Read the road ahead. (Don't pull out to pass if conditions are unsafe.)
Right	If someone else is passing, move to the right of your lane.
Reduce	Lower your speed. (Allow for an escape route if you need one.)
Ride	Leave the road to your right if doing so presents a lower risk. (Is grazing the tree or entering the ditch to the right a better option than a head-on collision with another vehicle? Try to leave yourself enough time and space to make your decision.)



Safe Driving



Types of Stopping



Normal stopping provides plenty of time and space to stop. This occurs 95% of the time.

Controlled stopping provides less space for stopping in a more confined area, but the car can stop at a faster rate without weaving. Controlled stopping may encompass shifting weight loads or have an elevated anxiety compared to a normal stop.

Emergency stops require that you take decisive action but remain in control. It is an immediate stop with the full braking capacity of the vehicle. You could lock up the brakes but still control the car.

In a **panic stop**, you are in an environment beyond your control. You are at the mercy of others to drive defensively and use their driving skills to avoid an accident.

Slips, Trips & Falls

Slips and falls are quite common, and so these incidents are often dismissed as “part of doing business” or thought to be just clumsiness. But resulting injuries can be very serious, so it is important to understand what causes them and how to prevent them.

Poor housekeeping is the main cause of these accidents. This can include:

- Wet, slippery floor surfaces
- Improper use of office or other equipment (chairs, file cabinets, cords, etc.)
- Items on the floor
- Damaged furnishings or equipment (carpet tears, damaged ladders, etc)
- Insufficient lighting caused by burned out bulbs

Then, there are the actions of individuals:

- Not using approved walkways
- Improper footwear
- Inattention
- Not using handrails
- Horseplay or running



Prevention of slips, trips and falls is everyone’s responsibility. The following items should be priorities for all of us:

- Keep floors clean and dry, and walkways clear.
- Keep items off of the floor. A pencil can be a real hazard if you step on it.
- Watch the cords. Keep them out of walkways.
- Report damaged tiles, carpet tears or other items which can catch your feet.
- Report burned out lights.
- Keep file drawers closed and sit straight on your chair.
- Watch where you are going and if you need to carry something , walk the path first to make sure there are no hazards in your way.
- Always use handrails on stairways.
- Use step ladders properly.
- Horseplay is for kids on playgrounds, not adults at work.
- Wear appropriate footwear, and if unsure, check with your supervisor.

Slips, Trips, and Falls



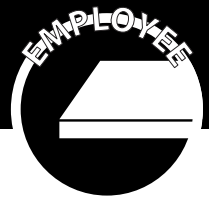
A Place for Everything

A place for everything!



Everything in its place!

Slips, Trips, and Falls

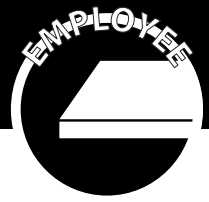


Causes



- Using a chair as a stepladder
- Walking where you don't belong
- Carrying large or heavy materials
- Using ladders unsafely
- Being distracted or not paying attention
- Slippery floors (wet or highly polished)
- Cords or other materials in the walking path

Slips, Trips, and Falls



Everyone's Responsibility

Housekeeping
is



everyone's responsibility.

Slips, Trips, and Falls



Falls and Stairways

Almost half of all fatal falls occur on stairways or steps.

Tips for Safety:



- Always use the handrail.
- Have good lighting.
- Make sure the steps are free of stored materials.
- Check for loose boards or carpeting.
- Use anti-slip coatings on steps.
- Ensure the edge of each step is visible.
- Paint the floor surface at the bottom a different color, or use a non-slip mat.
- Avoid carrying large amounts of materials up/down stairs. Better to make two trips safely than one trip and fall.
- Paint single steps bright yellow to call attention to them.

Slips, Trips, and Falls



Floor Surfaces



Clean and shiny floors are nice to look at, but they may cause slip hazards if they get wet or dirty.

Anti-slip flooring systems should be used in areas where hazards are likely to be created.

Slips, Trips, and Falls



Footwear

The shoes you wear play an important part in slip and fall prevention.



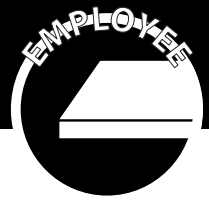
- Wear shoes that fit well.
- Shoes should have good traction/soles.
- Heels should not be too high.

Specialized shoes may be needed in certain situations.

- Construction areas require work-boots.
- Electricians require specially insulated shoes.
- Waterproof shoes
- Protection from rolling or falling objects
- Warehouse and production areas usually require closed-toed shoes.

Inspect shoes and footwear frequently for holes and deterioration.

Slips, Trips, and Falls



Good Work Practices

1 of 2

Report spills immediately.



Clean up spills, if you are trained and authorized.

Use non-skid surfaces in slippery areas, such as bathrooms and showers.

Use waterproof footgear to decrease slip/fall hazards where floors can be slippery.

Mop or clean only one side of an aisle at a time, allowing the other side to dry and providing a slip-free surface to walk on.

Slips, Trips, and Falls



Good Work Practices

2 of 2



Use ladders and stepstools to reach items.

Do not use chairs or boxes as substitutes for ladders.

Prevent tripping hazards by re-laying or stretching carpets that bulge or have become bunched. Eliminate uneven floor surfaces.

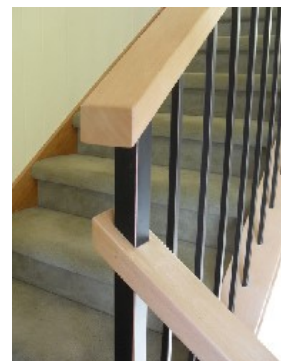
Temporary electrical cords that cross aisles should be taped or anchored to the floor.

Maintain housekeeping practices. Eliminate cluttered or obstructed work areas. Keep aisles and passageways clear at all times.

Tables, carts, and counters should be free of sharp edges and corners.

Provide adequate lighting, especially during night hours.

Always use handrails on staircases. Maintain a clear view of the stairs ahead, and request help when carrying bulky loads.



Slips, Trips, and Falls

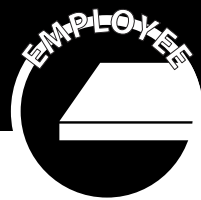


Housekeeping

Good housekeeping is not a “minor” issue.

- More people are injured from slips, trips, and falls than from any other work-related injury.
- Housekeeping is an ongoing procedure.
- Make housekeeping routine.
- Assign responsibility to everyone for their individual work areas.
- Clean up spills and waste materials immediately.
- Plan ahead – know what needs to be done.

Slips, Trips, and Falls



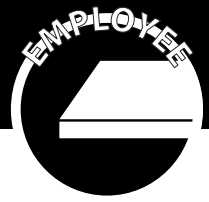
Housekeeping and Safety

Good housekeeping is important.



Safety and housekeeping
go hand-in-hand.

Slips, Trips, and Falls



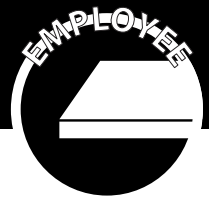
Keep Exit Paths Clear

Do not store materials in front of exits, paths to exits, or stairways.



In a fire or another emergency, these areas must be clear for evacuation.

Slips, Trips, and Falls

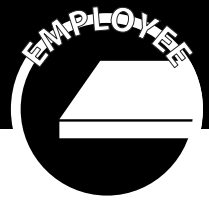


Lighting



- Replace broken or burned-out bulbs as soon as possible.
- Keep all areas well lit and clean.
- Be sure light switches are accessible (or use motion sensor lights).
- Move slowly in dim or shadowy areas.
- Use only bulbs with watts designed for the fixture – using a higher watt bulb is a fire hazard.
- Remember: extension cords are temporary devices only.
- Reduce glare by ensuring proper and consistent area lighting.
- Use task lamps or additional indirect lighting as needed.
- Use window shades as needed.

Slips, Trips, and Falls



Obstacles in Walkways

Problem areas in shop and work areas:

- Materials in walkway paths
- Equipment pieces jutting into aisles
- Improperly stored materials
- Temporary cords across aisles

Problem areas in offices:



- File cabinet drawers left open
- Materials stacked improperly
- Carpet areas in need of repair
- Wet tiles or floors
- Doorways

Slips, Trips, and Falls



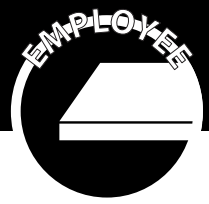
Oil and Grease Spills

- 1. Wipe up the excess material.**
 - **DON'T STOP HERE!** There may be a slippery residue that can cause someone to slip or fall.
- 2. Get a powder cleaner or grease-cutting liquid cleaner and READ THE LABEL.**
 - Make sure the cleaner is OK to use with your type of spill. (Some cleaners are incompatible with certain types of greases and oils, and toxic fumes may be given off if the wrong type is used.)
- 3. Pour or sprinkle the cleaner over the spill.**
 - Allow it to soak in – it needs a minute or two to break down the grease or oil.
- 4. Clean the remaining spill according to the directions on the cleaning agent.**



Wiping a spill with a mop doesn't always make the surface clean.

Slips, Trips, and Falls

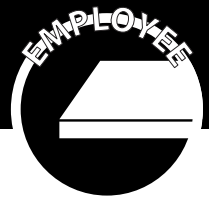


1 of 1

Outdoor Hazards

- Ø Look for wet or slippery spots on ramps and walkways.
- Ø Clean up spills, if you are trained and authorized.
- Ø When walking on grass or dirt be on the lookout for holes, rocks, and depressions.
- Ø Tools and hoses can hide in the grass, be on the lookout.
- Ø Use caution on slopes.
- Ø When close to dusk or dawn be sure you have adequate light for what you're doing.

Slips, Trips, and Falls



Pay Attention

Be aware of:



- where you are walking
- what you are doing
- slippery floor surfaces
- blocked or cluttered workspaces
- traffic areas (other people, vehicles)

Slips, Trips, and Falls



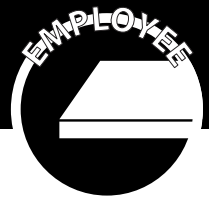
Take the Initiative

If you see a spill,
clean it up or report it.



If you see a slip and fall hazard,
fix it or report it.

Slips, Trips, and Falls



Things You Can Do



- Keep your work area clean and neat.
- Report lighting fixtures that need repair.
- Do not carry large boxes or items that obstruct your vision.
- Inspect ladders and steps, and use them properly.
- Clean up or report spills immediately.
- Wear proper footwear.
- Hold the handrails on staircases.
- Keep stairs and doorways clear.

Walking & Working Surfaces

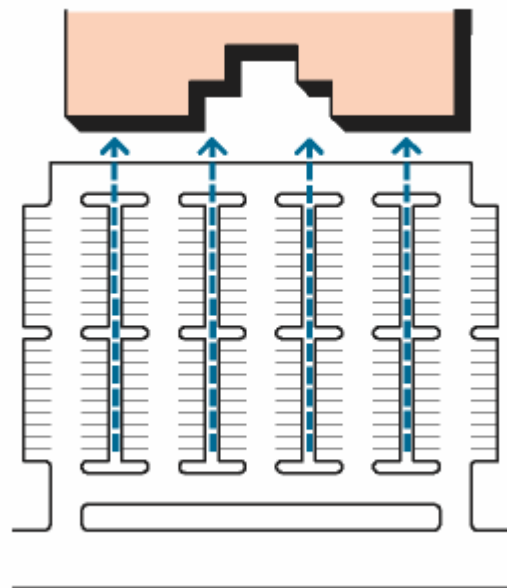


Aisles and Passageways

Where mechanical handling equipment is used, safe clearances must be provided in aisles, at loading docks, through doorways, and wherever turns or passage must be made. Aisles and passageways must be kept clear and in good repair with no obstruction across or in aisles that could create a hazard.

Forklifts are approximately the width and length of a small car. Could you drive your car through the aisle safely?

Permanent aisles and passageways must be appropriately marked.

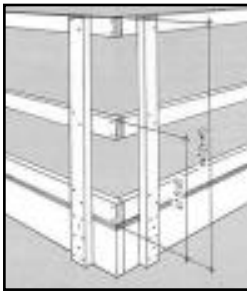


Walking & Working Surfaces



Railings, Toeboards, and Covers

All railings must be able to withstand a load of at least 200 lbs. applied in any direction at any point on the top rail.



Standard (Barrier) Railings must have a top rail, intermediate rail, and posts, and allow 42 inches from the top rail to the floor or platform. Top rails must have smooth surfaces. The intermediate rail must be spaced halfway between the top rail and the floor. The ends of the rails must not overhang the posts and create a projection hazard.

Stair railings are similar to standard railings, but the height of the railing can be lowered to 30-34 inches from the step or riser.

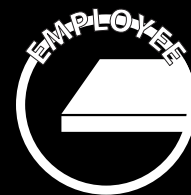
- For wood railings, the posts and railings must be at least 2 x 4 inch stock and posts must be spaced 6 feet or less apart.
- For pipe railings, posts and railings must be at least 1½ inches in diameter with posts spaced not more than 8 feet apart.
- For structural steel railings, posts and rails must be 2 x 2 x 3/8-inch angles (or other metal shapes) with posts spaced not more than 8 feet apart.

Handrails must be smooth and securely mounted between 30 and 34 inches from the floor or step and of sufficient size and strength (2 to 3 inches in diameter with 200 lb. load capacity) to grasp during a fall. Brackets must be spaced at least every 8 feet and maintain a 3-inch clearance from the wall. Handrails may not project out at the ends to create an additional hazard.



Toeboards must be 4 inches high and have not more than a ¼-inch clearance from the floor or step. If made of mesh-like material, the hole openings can not be more than 1 inch in diameter. Where toeboards will not prevent material from falling off the sides of the steps or platforms, railings must be fully paneled.

Walking & Working Surfaces



Stairway Railings and Guards

Flights of stairs with more than four steps must have railings.



- Stairways less than 44 inches wide with both sides enclosed must have at least one handrail, preferably on the right side descending.
- Stairways less than 44 inches wide with one side open must have at least one stair railing on the open side.
- Stairways less than 44 inches wide with both sides open must have one stair railing on each side.
- Stairways more than 44 inches wide but less than 88 inches wide must have one handrail on each enclosed side and one stair railing on each open side.
- Stairways 88 or more inches wide must have one handrail on each enclosed side, one stair railing on each open side, and one intermediate stair railing located approximately midway between.



Winding stairs must be equipped with a handrail offset to prevent walking on all portions of the treads less than 6 inches wide.

**ACCESS TO EMPLOYEE EXPOSURE AND MEDICAL RECORDS
RELEASE OF MEDICAL OR EXPOSURE RECORDS
From Physician to Physician**

Originating Physician or Office/Company Name and Address:

Contact Name: _____

Contact Phone number: _____

The above office requires the records of the following patient with relation to blood analysis for disease screening. This requirement is based on an employee exposure from our office to your patient's blood or bodily fluid. This information will be kept confidentially within the confines of both the Bloodborne Pathogens standard and the Access to Exposure and Medical Exposure Records regulations under OSHA and information will be disclosed only to the persons involved with this case who require this information.

Patient's Name: _____

Date of Blood Screening (if known): _____

Physician of Record for the above patient: _____

Patient's Physician or Office/Company Name and Address:

Signature of Originating Physician or the designated representative.

Date of Signature: _____

EXPOSURE INCIDENT PROCESS FLOW

Should an exposure incident occur, the following steps should be taken:

- 1) Fill out the exposure incident report form.
 - a. Note that this document must be kept confidentially, according to HIPAA requirements.
- 2) Make a copy and provide the copy to the employee to give to the evaluating physician
- 3) Provide the physician with a copy of the physician evaluations statement form.
- 4) Within 24 hours of the incident, have the exposed employee go to their physician, or other hospital or clinic to have an initial (baseline) blood draw, urine sample evaluation, or other exposure evaluation.
 - a. Note that the type of evaluation is dependant on the exposure contaminant.
 - b. Note that any cost for this exposure evaluation is paid by the employer not the exposed employee.
- 5) At a 6 month interval (or at a frequency determined by the primary physician, or at a frequency determined by specific chemical exposure regulations), have the exposed employee return for a follow-up evaluation.
 - a. Note that the type of evaluation is dependant on the exposure contaminant.
 - b. Note that any cost for this exposure evaluation is paid by the employer not the exposed employee.
- 6) Ensure the evaluating physician fills out and returns to your company the physician evaluation statement after the follow-up evaluation.
 - a. Note that this document must be kept confidentially, according to HIPAA requirements.

**EXPOSURE INCIDENT:
PHYSICIAN (PLHCP) EVALUATION STATEMENT**

_____ has been evaluated for resulting health effects from a
(Employee Name)
workplace biological, chemical or hazardous agent exposure. This individual has been informed of the results of any testing that has been undertaken and of the treatment options available to them should any health effect have occurred from the workplace exposure.

(Physician Signature)

Physician Name and Office Address:

EXPOSURE INCIDENT REPORT

(Routes and Circumstances of Exposure to Bloodborne Pathogens or Chemical Agent)
Form To Be Completed By Supervisory Personnel

Report #

Facility:

Supervisors Name:

Date Reported:

Related Operating Procedures Reviewed:

Yes

No

All Affected Employees Notified:

Yes

No

Employee Information:

Employee's Name

Date

Date of Birth

SS#

Job Title

Telephone (Business)

(Home)

Date of Exposure

Time of Exposure

AM PM

Hepatitis B Vaccination Status

Location of Incident

Bodily Exposure Information:

Part of body to which exposure occurred (describe fully):

Decontamination:

Describe the method(s) of decontamination used

Soap & water

Disinfectant

Towelettes

10% Bleach solution

Other (describe):

Describe what job duties were performed when the exposure incident occurred.

Describe the circumstances under which the potential exposure incident occurred.

What body fluid(s) or specific chemicals were involved in the exposure incident?

Describe route of exposure (e.g., skin contact, inhalation, ingestion).

Describe any Personal Protective Equipment (PPE) in use at time of exposure incident.

Did PPE fail? No Yes If yes, describe how.

(For Bloodborne Pathogen Exposure) Identification of source individual(s) (Names)

ACKNOWLEDGMENT

Employee Name:	Supervisor Name:
Signature:	Supervisor Signature:
Date:	Time:

<u>REPORT FORM RETENTION INFORMATION</u>	<u>ATTACHMENTS</u>
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Permanent Retention File:	Location:	*Yes <input type="checkbox"/>	No <input type="checkbox"/>
Date Filed:	Filed By:		

EXIT AND EGRESS (LIFE SAFETY) REQUIREMENTS

This document defines and outlines the minimum requirements for safe means of egress from fire and other emergency situations as outlined in Federal Regulations (29CFR1910.36-38 and associated Appendix B, and the Life Safety Code - NFPA101), additional Federal, State or Local codes may need to be considered. Elements of means of egress must be included in any written Emergency Action or Fire Prevention Plan. Provisions for accommodations for special needs individuals should also be given consideration and provided for.

Responsibilities:

	<i>Exits/Exit Paths Clear and Unobstructed</i>	<i>Exit Markings</i>	<i>Fire Doors and Hardware</i>	<i>Occupancy and Exit Capacity</i>	<i>Written Plan</i>	<i>Training</i>
<i>Employees</i>	X					X (receive)
<i>Area Management</i>	X	X	X		X	X (provide)
<i>Landlords</i>	X	X		X	X	
<i>Safety</i>	X					X (provide)

General - Life Safety exits and exit paths shall comply with OSHA, NFPA Life Safety and State and Local codes.

- Assure that exits and paths are clear and unobstructed at all times. Materials are not to be placed or stored in exit paths, stairwells or hallways.
- Fire, exit, stair and smoke-stop doors and dampers will be kept closed at all times, except for those equipped with approved automatic releasing hold-open devices installed and maintained in accordance with regulatory requirements and guidelines.
- ALL penetration through fire rated walls and other enclosures will be sealed with a material that will maintain the integrity and rating of the wall.
- Assure that furnishings and/or decorations do not obstruct exits, access to exits, paths to exits, or the visibility of an exit. Flammable decorations and furnishings are prohibited in, on or near exits (and along egress routes).
- Mirrors are prohibited on or near exit doors, to prevent confusion in an emergency.
- Assure aisles are appropriately marked or designated.

Occupancy Changes

- Notify the building owner, building manager and/or landlord if operations or personnel occupancy or classifications change to assure the capacity for safe discharge from exits is maintained. The number and capacity of exits, based on building or floor occupancy must be sufficient to allow safe egress from the building.

Exit Arrangement and Discharge

- Exits must have a clear direction of travel and discharge to safe, clear spaces, not encumbered by traffic or other hazards. These areas of refuge must be of adequate size to accommodate the maximum personnel occupancy.
- External exit paths must be maintained free of ice and snow, and any other obstructions.
- Exits and egress routes shall be arranged to prevent travel through an area of higher hazard without fire-rated corridors or other protective barriers in place.
- Exits may not be through an area with locking mechanisms, unless the exit serves only that room i.e. bathrooms or kitchens).

Doors and Hardware

- Report any broken or defective doors or hardware to the area management, building management and/or landlord for immediate repair. Doors and hardware must be permanently affixed or integral to the building, and constructed of approved components.
- Doors, passageways or stairways that are not exits, but could be mistaken for exits, shall be marked "Not an Exit" or with some other sign or indication of use.
- Alarmed doors, not normally used as exits during normal operations, but may be useable as exits during an emergency, shall be marked "Do Not Block, Door to be Used in an Emergency", or an equivalent statement.
- Exit doors will swing in the direction of exit travel
- Rated doors shall be constructed of approved components and not modified or altered in any fashion.
- Repairs and modifications to fire rated doors must be made with hardware that will not compromise the integrity of the fire rating. Holes will not be drilled for such purposes as hanging signs. Holes shall be plugged in an appropriate manner.

Hazardous Material Storage

- No flammable or explosive material (or other high hazard chemicals or substances) will be brought into an area not normally classified for those substances without adequate safety precautions and specific safeguards. (For example, compressed gas cylinders, gaylords of combustible material, etc.) A safety review will be conducted prior to any of these materials being brought on-site.

Exit Signs and Lighting

- Report faulty, inadequate or broken exit lighting to area management, the building manager and/or landlord. Adequate and reliable illuminated exit lighting must be maintained at all times. Emergency lighting must be provided for all components of egress (with battery backup, as required). Where reduction of normal lighting is permitted (i.e. darkrooms) alternative measures may be used.
- E X I T letters shall be legible and not less than 6" high, with each letter not less than 3/4" wide and contrast with existing decorations and furnishings. Arrows indicating the direction of travel will be included when the path of travel is not readily apparent.

Exit Enclosures (Stairwells, lobbies, etc.)

- Exit enclosures will have an approved fire rated door, will comply with approved fire resistance ratings and will have guards or railings on open sides.
- Enclosures will have level surface floors with stairs or ramps provided when not substantially level. Enclosures will have a permanent, straight path of travel with no dead ends in excess of 20 feet.
- Enclosures will comply with OSHA, Life Safety Code, State or Local codes and regulations, including height and headroom requirements.

Alarms and Fire Protection Systems

- Emergency Evacuation Alarm, Fire Alarm and Sprinkler systems will be maintained in good operating condition. Maintenance would include, but not be limited to: testing frequency, inspection, maintaining an 18 inch clearance around and below all sprinkler heads, and assurance that ceiling tiles remain in place.
- Alarms will be less than 100dB but greater than the ambient noise levels in the area so they can be adequately heard.

Emergency Evacuation and Fire Prevention Plans

- All employees, occupants, tenants and visitors will review their written plans upon initial assignment, whenever there are changes to the plan or when their responsibilities under the plan are changed. It is recommended that the plan be reviewed by all occupants at least annually.
- Paths of egress will be included in the site or building's written plans, or be posted throughout the building where they are accessible to employees throughout the building. Floor plans or workplace maps, if used, should clearly show the route of egress. Color codes these maps as applicable.
- Operating areas, in conjunction with the building's owner, manager or landlord, will establish specific types of evacuations, if applicable (i.e. partial building evacuations).
- Training will be provided to all persons who have additional duties or responsibilities under the Emergency Evacuation and Fire Prevention plans.
- All employees and occupants should participate in evacuation drills at least annually

Other

- Conference rooms, Auditoriums and other areas of assembly with a capacity of greater than 50 people will have posted occupancy signs.
- Fire Retarding Paints and Coverings, if used, will be renewed at intervals sufficient to maintain the retarding properties.

Safety Signs and Aisle Markings - The marking of interior aisles to provide unrestricted movement of personnel and material handling equipment in open manufacturing or storage areas is required. It is the responsibility of each area to assure aisles are properly marked and markings are readily visible. Consult with safety professionals for any deviations from this information.

Marking Requirements

- All aisles will be marked with painted lines, tape or other acceptable markers.
- All aisle widths will be dimensioned from the outside edges of the lines or markers
- The type of aisle-marking system used depends on the floor finish, type of traffic, anticipated length of service and exposure to water, chemicals, etc.
- PAINTED LINES are recommended for rough surfaces and areas of abrasive traffic. The lines will be between 3 and 4 inches in width.
- MARKERS are recommended on smooth-surfaced floors subject to foot traffic and trucking. In areas subject to chemical exposure (e.g. solvents, acids and heavy abrasive traffic) different types of markers may be tried until the most suitable one is identified. Use 3 inch diameter pressure sensitive (vinyl is recommended) dots spaced at 12 ½ inch centers. Dots may be applied by hand, or may also be ordered in rolls for application by automatic dispensing machines.
- TAPE is recommended for lines on smooth-surfaced floors for temporary or small marking jobs. Use 2 inch wide pressure-sensitive white (or other appropriate color). Vinyl is recommended.
- Where white lines do not give enough contrast, black-and-white lines (or markers of contrasting colors) may be substituted.
- At no time shall any materials be allowed to protrude onto or over the outside of the aisle lines.

Aisle, Door and Stairway Width Requirements:

Type of Aisle	Aisle Width
Pedestrian Side Aisle	1.1 m (44")
Pedestrian Main Aisle	1.5 m (6')
Truck - Ride-on Counterbalance	3.2 m (10'-6") to 3.7 m (12') depending upon truck capacity
Truck - Ride-on Straddle	2.4 m (8')
Truck - Walkie Counterbalance	2.9 m (9'-6") - 3.2 m (10'-6") depending upon truck capacity
Truck - Walkie Straddle	2.1 m (7')
Truck - Walkie Pallet/Platform	2.1 m (7')
NOTE: Aisle widths are dependent upon the configuration of the truck. The above widths are given only as a general guide. Consult with regulatory guidelines (NFPA-101) for more details.	
Exit doors	81 cm (32") each door – minimum or as wide as any staircase that serves the exit.
Stairs	112 cm (44") - minimum

Definitions:

- **Area Management** - Persons responsible for supervision or management of employees
- **Written Plan** - Building Emergency Action or Fire Prevention Plans.
- **CFR** - Code of Federal Regulations (OSHA regulations)
- **Egress** - A continuous and unobstructed way of exit travel from any point in a building or structure to a public way (or safe area of refuge), and consists of three distinct parts: the way of exit access, the exit, and the way of exit discharge.

FIRE PREVENTION PLAN

COMPANY NAME:

**SITE ADDRESS OR
LOCATION:**

ASSESSMENT DATE:

Completed by:

List all major fire hazards in the building or facility (>25 gallons of flammable liquids, large amounts of combustibles, etc.):

Describe the type of fire protection equipment necessary to control each major hazard (sprinkler systems, extinguishers, etc.):

Reference specific written procedures for the proper handling and storage of hazardous materials:

Ignition sources within 30 feet of flammable materials require control measures (list control measures):

Reference specific written procedures to control accumulation of flammable and combustible waste materials:

Reference specific written procedures for regular maintenance of any heat-producing equipment and their safeguards to prevent accidental fires:

Identify the job title of employees who are responsible for maintaining heat-producing equipment to prevent or control sources of ignition or fires:

Identify the job title of employees who are responsible for controlling any fuel source hazards (flammable liquid, fuel or propane tanks, etc.)

MONTHLY FIRE EXTINGUISHER REVIEW

Person Conducting Review or Inspection:

Date of Inspection:

Extinguisher location	Circle type extinguisher A B C D H	Sign Present at Location? <input type="checkbox"/> YES <input type="checkbox"/> NO	Extinguisher OK? <input type="checkbox"/> YES <input type="checkbox"/> NO	Defects Noted (pin missing, not mounted, housing damaged, etc.)
	A B C D H	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	
	A B C D H	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	
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HAZARD COMMUNICATION PROGRAM ASSESSMENT CHECKLIST

Assessor:	Date:	
Requirement Explanation	Elements to Verify	Compliant?
It is the employee's right, to know about the hazards of chemicals they may be exposed to, and the measures to protect themselves from these hazards.	Employees understand the requirements of the Hazard Communication Program	<input type="checkbox"/> Yes <input type="checkbox"/> No
Hazard Communications Program requires that at least one person in the company be assigned or designated to coordinate the program.	Responsibilities have been assigned for tasks, including: <ul style="list-style-type: none"> ➤ Developing the written program ➤ Implementing the written program ➤ Maintaining the written program 	<input type="checkbox"/> Yes <input type="checkbox"/> No
Develop, implement and maintain a written hazard communication program that contains or describes: <ul style="list-style-type: none"> • List of chemicals • Access to and maintenance of a current SDS • Labeling procedures • Protective measures • Training program elements • Provisions for contractors (multi-employer workplaces) • Procedures for non-routine tasks and unlabeled pipelines 	A prepared written program is available (using the provided template or an equivalent document)	<input type="checkbox"/> Yes <input type="checkbox"/> No
	The written program is available to employees	<input type="checkbox"/> Yes <input type="checkbox"/> No
	A written list of hazardous chemicals, using an identity that is referenced on the SDS, is available to all employees	<input type="checkbox"/> Yes <input type="checkbox"/> No
	The written chemical list is kept current	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Copies of any previous versions of the chemical list are retained for 3 years	<input type="checkbox"/> Yes <input type="checkbox"/> No
Assure labels and other forms of warning are affixed to the containers, as appropriate. <ul style="list-style-type: none"> • Full labeling: All containers must be labeled with the chemical name, appropriate hazard warnings and the manufacturer name and address. Vendor labels should be in compliance. Such labels may not be defaced or covered. • Shortened labeling: may be used for process materials and must contain the chemical identity (easily referenced back to the SDS), and appropriate hazard warnings (e.g. HMIS codes) and readily available SDS that are consistent with the training program. • Not required for portable containers which will be immediately utilized by the employee on that work-shift and which remain in the direct control of the employee at all times. 	Containers and pipelines in the workplace are labeled properly	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Containers leaving the workplace are labeled properly	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Labels on containers are updated when there is new hazard information	<input type="checkbox"/> Yes <input type="checkbox"/> No

Requirement Explanation	Elements to Verify	How Met / Records, Procedures
Assure Safety Data Sheets (SDS) for each chemical used in the workplace are readily accessible to employees on each work shift, and are written in English.	Current SDS for each hazardous chemical and mixture in the work area are present	<input type="checkbox"/> Yes <input type="checkbox"/> No
	SDS are readily available to workers in the work area during the work shift	<input type="checkbox"/> Yes <input type="checkbox"/> No
	SDS are provided to other employers when shipping chemicals to them	<input type="checkbox"/> Yes <input type="checkbox"/> No
Assure SDS are retained for at least as long as employees who use them are employed (longer for any material involved in an overexposure incident).	SDS are maintained for at least the duration of employment for any employee using the material.	<input type="checkbox"/> Yes <input type="checkbox"/> No
	SDS for chemicals involved in overexposure incidents are maintained for the duration of employment plus 30 years.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Train and inform employees on initial assignment and whenever a new physical, chemical or health hazard is introduced.	Employees are trained in the Hazard Communication Program upon initial assignment	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Employee training is updated when there is a new physical or health hazard	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Employees are trained when there is a new or non-routine task	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Initial employee training includes all required elements	<input type="checkbox"/> Yes <input type="checkbox"/> No
Develop and implement a method of communication between the contractor and the company which describes and outlines: <ul style="list-style-type: none"> • the method used to communicate hazards and precautions • the method used to access SDS • the method used to communicate emergency situations • the labeling methods utilized. 	Contractors in your workplace are informed of: the hazards and precautions, the labeling system used, how to access SDS, and emergency procedures	<input type="checkbox"/> Yes <input type="checkbox"/> No
Assure that the company has evaluated and determined the hazards of any new or existing chemicals.	Chemicals and mixtures produced or imported are evaluated to determine if they are hazardous	<input type="checkbox"/> Yes <input type="checkbox"/> No
Hazard Communication Program Features - For Those Who Ship Chemicals Out of the Workplace The company is required to determine the hazards of any products or chemicals they manufacture and/or sell. This information is generally found on the Safety Data Sheet (SDS) for the product.	Step 1: List a representative sampling of chemicals that are being shipped from the workplace. Include chemicals: <ul style="list-style-type: none"> • repackaged • supplied in the original container • raw materials • products 	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Step 2: Verify that each container is labeled, tagged, or marked with <ul style="list-style-type: none"> • the identity of the hazardous chemical • appropriate hazard warnings • name and address of the chemical manufacturer, importer, and other responsible party • information that does not conflict with Federal Department of Transportation (DOT) requirements 	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Step 3: Verify that a Safety Data Sheet is sent with the shipped container or has been sent prior to the time of shipment.	<input type="checkbox"/> Yes <input type="checkbox"/> No

Requirement Explanation	Elements to Verify	How Met / Records, Procedures
<p>Hazard Communication Program Features - For those who Manufacture and/or Use Chemicals</p> <p>Best Management practices suggest that the effectiveness of the program and its corresponding training be VERIFIED. These steps will assist in that process.</p>	<p>Step 1: List a 10% representative sampling of chemicals in the work area/workplace. Include chemicals:</p> <ul style="list-style-type: none"> • with the most potential exposure • used in the most hazardous areas • that are in a variety of containers • that are manufactured by vendors and by the company (if applicable) 	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<p>Step 2: List 5-20 people in the work area/workplace. Use a cross section of employees including:</p> <ul style="list-style-type: none"> • contract, summer, and supplemental employees • most and least senior employees • learning, hearing, or visually impaired • non-English-speaking employees • those working in out-of-the-way places/times and on multiple shifts 	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<p>Step 3: Using the list from Step 1, verify that:</p> <ul style="list-style-type: none"> • the current SDS are accessible • the chemicals on the chemical list • the containers in the workplace are labeled with the identity of the contents and hazard warnings. 	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<p>Step 4: Ask each person listed from Step 2:</p> <ul style="list-style-type: none"> • what the most hazardous operations in their work area/ workplace are • what chemical(s) pose the most potential for exposure • to explain the health and physical hazards and protective measures they use for chemicals in Step 1 • what methods and observations they use to detect a release of hazardous chemical • where the chemical list, SDS file and written program are located • where they go for additional information to locate SDS for some of the chemicals in Step 1 	<input type="checkbox"/> Yes <input type="checkbox"/> No

PERSONAL PROTECTIVE EQUIPMENT ASSESSMENT

Area Assessed:	Date:
Assessor(s):	
Description of Requirement	Compliant?
PPE PROGRAM FEATURES	
Is there a written program for the area (i.e., procedures, documentation)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are responsibilities listed and assigned?	<input type="checkbox"/> Yes <input type="checkbox"/> No
PPE SURVEY/ASSESSMENT/ANALYSIS	
Are surveys/assessments structured (example: uses Hazard Recognition Checklist and JHA Form)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are these surveys integrated with other parts of the company's safety program (example: JHA's and SOPs reflect PPE needs)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are reassessments routinely scheduled?	<input type="checkbox"/> Yes <input type="checkbox"/> No
PPE EQUIPMENT SELECTION	
Does PPE meet current national standards (ANSI standards – American National Standards Institute – a recognized agency that provides guidance for specific equipment)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does PPE selection involve the area Occupational Health and Safety Service provider(s)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does the selection process and available equipment protect against identified hazards and allow for correct type, size, and fit?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is a process in place to ensure proper PPE supply and maintenance per procedure requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No
PPE TRAINING	
Is the content of the training program specific to the job, including: <ul style="list-style-type: none"> • When PPE is necessary? • What PPE is necessary? • How to properly don, doff, adjust, and wear PPE? • Limitations of PPE? • Maintenance, care, useful life, disposal of PPE? 	<input type="checkbox"/> Yes <input type="checkbox"/> No
Can the employee demonstrate: <ul style="list-style-type: none"> • Understanding of training? • Ability to use PPE? 	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there a process in place to initiate retraining when: <ul style="list-style-type: none"> • Process/workplace changes result in changed PPE requirements (skill/knowledge updates)? • Observations of employee behavior show inadequate understanding? 	<input type="checkbox"/> Yes <input type="checkbox"/> No

Description of Requirement	Compliant?
EMPLOYEE PERFORMANCE	
Do interviews with or observations of employees indicate that they know: <ul style="list-style-type: none"> • When PPE is necessary? • What PPE is necessary? • How to properly don, doff, adjust, and wear PPE? • How to properly maintain & care for PPE? • When and how to properly dispose of PPE at the end of its useful life? 	<input type="checkbox"/> Yes <input type="checkbox"/> No
RECORDKEEPING	
Do workplace assessment documents show: <ul style="list-style-type: none"> • Identity as <i>Certificate of Hazard Assessment</i>? • Name of workplace(s) evaluated? • Name of person(s) completing the evaluation? • Date(s) of assessment? 	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is attendance for training officially recorded?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Do records indicate that all PPE training is current?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Do records indicate that all new employees receive all necessary PPE training before they begin work?	<input type="checkbox"/> Yes <input type="checkbox"/> No

WALKING AND WORKING SURFACES PROGRAM ASSESSMENT

Facility Assessed:	Assessor:	Date:
Description of Requirement		Compliant?
General Work Environment		
Is a documented, functioning housekeeping program in place?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are all worksites clean, sanitary and orderly?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Walkways		
Are aisles and passageways kept clear?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are aisles and walkways marked as appropriate?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are wet surfaces covered with non-slip materials?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are holes in the floor, sidewalk or other walking surface repaired properly, covered or otherwise made safe?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Is there safe clearance for walking in aisles where motorized or mechanical handling equipment is operating?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are materials or equipment stored in such a way that sharp projections will not interfere with the walkway?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are spilled materials cleaned up immediately?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are changes of direction or elevation readily identifiable?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are aisles or walkways that pass near moving or operating machinery, welding operations or similar operations arranged so employees will not be subjected to potential hazards?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Is adequate headroom provided for the entire length of any aisle or walkway?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are standard guardrails provided where ever aisle or walkway surfaces are elevated more than 30 inches above any adjacent floor to the ground?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are bridges provided over conveyors and similar hazards?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Floor and Wall Openings		
Are floor openings guarded by a cover, a guardrail, or equivalent on all sides (except at entrance to stairways or ladders)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are toe-boards installed around the edges of permanent floor openings (where persons may pass below the opening)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are skylight screens of such construction and mounting that they will withstand a load of at least 200 pounds?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Is the glass in the windows, doors, glass walls, etc., which are subject to human impact, of sufficient thickness and type for the condition of use?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are grates or similar type covers over floor openings (such as floor drains) of such design that foot traffic or rolling equipment will not be affected by the grate spacing?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are unused portions of service pits and pits not actually in use either covered or protected by guardrails or equivalent?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Are manhole covers, trench covers and similar covers, plus their supports, designed to carry a truck rear axle load of at least 20,000 pounds when located in roadways and subject to vehicle traffic?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are floor or wall openings in fire resistive construction provided with doors or covers compatible with the fire rating of the structure and provided with a self-closing feature when appropriate?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Stairs and Stairways	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are standard stair rails or handrails installed on all stairways that have four or more risers?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are all stairways at least 22 inches wide?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Do stairs have landing platforms not less than 30 inches in the direction of travel and extend 22 inches in width at every 12 feet or less of vertical rise?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Do stairs angle no more than 50 and no less than 30 degrees?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are step risers on stairs uniform from top to bottom?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are steps on stairs and stairways designed or provided with a surface that renders them slip resistant?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are stairway handrails located between 30 and 34 inches above the leading edge of stair treads?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Do stairway handrails have at least 3 inches of clearance between the handrails and the wall or surface they are mounted on?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Where doors or gates open directly on a stairway, is there a platform provided so the swing of the door does not reduce the width of the platform to less than 21 inches?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Where stairs or stairways exit directly into any area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees stepping into the path of traffic?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Do stairway landings have a dimension measured in the direction of travel, at least equal to the width of the stairway?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Elevated Surfaces	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are signs posted, when appropriate, showing the elevated surface load capacity?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are surfaces elevated more than 48 inches above the floor or ground provided with standard guardrails?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are all elevated surfaces (beneath which people or machinery could be exposed to falling objects) provided with standard 4-inch toe-boards?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is a permanent means of access and egress provided to elevated storage and work surfaces?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is required headroom provided where necessary?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is material on elevated surfaces piled, stacked or racked in a manner to prevent it from tipping, falling, collapsing, rolling or spreading?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are dock boards or bridge plates used when transferring materials between docks and trucks or rail cars?	<input type="checkbox"/> Yes <input type="checkbox"/> No