

Health and Safety Tool Kit

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The ABC's & K of Fire Extinguishers

Just as there is a right tool for every job, there is a right extinguisher for every fire. The class of an extinguisher, identified on its nameplate, corresponds to the class or classes of fire the extinguisher controls. On most construction jobs, we are concerned with Class A, B, and C fires. Consequently, the best extinguisher to have on a job is a multi-purpose Class ABC extinguisher, which contains a dry, powdered chemical under pressure. In food service you will find cooking oils used in high temperature frying, and there should be a Class K (for kitchen) extinguisher. The following describes the classes of fire and the kind of extinguisher that can be used on each. NFPA added Class K to the Portable Extinguisher Standard 10 in 1998.

Class A fires

Wood, paper, trash, and other materials with glowing embers when they burn.

Extinguisher to use: For Class A fires, use a Class A or Class ABC extinguisher. Always remember that a Class A extinguisher contains water and should be used only on a Class A fire. Used on gasoline, it can spread the fire. Used on electrical fires, it can cause you to be electrocuted.

Class B fires

These are fires involving flammable liquids and gases, such as gasoline, solvents, paint thinners, grease, LPG, and acetylene.

Extinguisher to use: Use Class B or Class ABC extinguishers.

Class C fires

These are fires in energized electrical equipment.

Extinguisher to use: Use a Class BC or Class ABC extinguisher.

Class K fires

These are kitchen fires. These fires would generally involve vegetable oils, animal oils, or fats in cooking appliances. Class K extinguishers should be used in commercial kitchens, including those found in restaurants, cafeterias, and caterers.

Extinguisher to use: Use a Class K.

Using Fire Extinguishers

Just as important as knowing what type of fire extinguisher to use is knowing how to properly use the extinguisher. The acronym P.A.S.S. can help you remember.

P: Pull the pin

A: Aim the nozzle at the base of the fire

S: Squeeze the trigger

S: Sweep with nozzle until the fire is extinguished

In addition, stand about eight feet from the fire and have a clear path to the exit.

Some other important points to remember:

- Know where extinguishers are located and how to use them. Follow the directions printed on the label.
- Keep the area around the fire extinguisher clear for easy access.
- Don't hide the extinguisher by hanging coats, rope, or other materials on it.
- Take care of the extinguishers just as you do your tools.
- Never remove tags from extinguishers. They indicate the last time the extinguisher was serviced and inspected.
- Report defective or suspect extinguishers to your supervisor so that they can be replaced or repaired.
- When inspecting extinguishers, look for cracked hoses, plugged nozzles, and corrosion. Also look for damage that may have been done by equipment running into the extinguishers.
- Don't use extinguishers for purposes other than fighting fires.
- Nobody wants a fire. But if one starts, know what extinguishers to use and how to use them.

Accident Investigations

Don't Wait Until an Accident Happens!

Too often hazardous conditions come to our attention only after someone is hurt or seriously injured. If you see an unsafe act or unsafe condition, don't ignore it and gamble on you or a friend not getting hurt.

If you notice someone working in an unsafe manner, let that person know. You could be preventing a serious injury. Wouldn't you expect someone to have the same consideration for you? Or, if you see an unsafe condition, correct it. If you can't, report it to your supervisor.

After an accident happens, there usually is a lot of talk and excitement. Then it is written up, becomes a statistic, and is too soon forgotten.

Accident Investigation

Fortunately, some good can come out of every accident. Investigations can produce information we can use to prevent a similar mishap from occurring in the future. Some persons, however, mistakenly believe that accident investigation is used to put the blame on someone. And so they refuse to cooperate.

If you see an accident...

Make a mental note of everything that occurred and the condition that existed before the accident. Ask yourself the following questions:

1. Where was I when the accident happened?
2. What was I doing?
3. What equipment was involved?
4. Where was the injured person and what work was being done?
5. What was the sequence of events?

Imprint these things on your memory. Remember that others were in a different position and may not have seen things as you did.

Cooperate in the investigation

When the investigator asks questions about the accident, give the facts as you saw them. If you omit or change information to protect someone, how can we accurately determine the causes and help prevent the same thing from happening again? Next time you may be the victim.

Bloodborne Pathogens

Goal

This program is designed to ensure the health and safety of workers with occupational exposure to bloodborne pathogens.

Objective

This information will assist employers in developing an Exposure Control Plan specific to their facility.

Background

In the mid 1980's, workers from the healthcare field petitioned OSHA for a standard to protect those at risk of contracting Hepatitis B Virus (HBV), Human Immunodeficiency Virus (HIV), and other bloodborne pathogens. OSHA responded to this concern by developing the Bloodborne Pathogens Standard, 29 CFR 1910.1030.

When the standard came into effect on June 4, 1992, the public thought of it as solely regulating the healthcare industry. However, the standard also applies to any employer whose employee's duty is to work with blood, body fluids, or other potentially infectious materials. This includes first aid responders, medical researchers, teachers, school nurses, and others who may be required to offer assistance to an injured person.

The standard is based on universal precautions. Universal precautions were developed in 1987 when the Centers for Disease Control published guidelines with instructions to treat all people as if they are infected with a bloodborne pathogen. These precautions are intended to protect workers at risk of exposure.

Definitions

The standard lists definitions for terminology associated with bloodborne pathogens. Some of the more critical definitions are:

Other Potentially Infectious Material: any human body fluids (semen, vaginal secretions, cerebrospinal, synovial pleural, pericardial, peritoneal, amniotic fluids, saliva; any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids; any unfixed tissue or organ from a human [living or dead]; HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV).

Contaminated: the presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.

Parenteral: piercing mucous membranes or the skin barrier through such events as needle sticks, human bites, cuts and abrasions.

Occupational Exposure: reasonably anticipated skin, eye, mucous membrane or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

Engineering Controls: controls (e.g., containers for disposing sharp objects, self-sheathing needles) that isolate or remove the bloodborne pathogens hazard from the workplace.

Work Practice Controls: controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles using a two-handed technique).

Exposure Control Plan

The standard requires employers to develop a written **Exposure Control Plan**. This plan is divided into three sections:

1. Exposure determination,
2. Schedule for methods of implementing sections of the standard, and
3. Procedures for evaluating an exposure incident as described under the section "Evaluation Of An Exposure."

The plan must be reviewed and updated at least annually or whenever new personnel, tasks, or procedures effect occupational exposure. It must be available to all employees upon request.

Exposure Determination

The exposure determination is made by reviewing job classifications within the work environment without regard to the use of personal protective equipment. The job classifications are then listed into two types.

Type I: Includes job classifications in which all employees have occupational exposure, such as operating room scrub nurses.

Type II: Includes those classifications in which some employees have occupational exposure. Specific tasks and procedures causing occupational exposure must be listed for Type II employees. For instance, some workers might be assigned the task of handling contaminated laundry in a hospital laundry room while other laundry personnel would not. Once employees with occupational exposure have been identified, the hazards must be communicated to these employees.

Schedule & Implementation

This portion addresses the schedule and method for implementing sections of the bloodborne pathogens rule. These sections cover compliance; hepatitis B vaccination and post-exposure evaluations and follow-up; hazard communication (labels and information training); and required recordkeeping.

Methods of compliance: Compliance to the bloodborne pathogens standard involves three facets: engineering and work practice controls, personal protective equipment, and housekeeping.

Engineering and work practice controls are the primary methods used to eliminate or minimize occupational transmission of HBV and HIV. Personal protective equipment and clothing are also necessary when occupational exposure to bloodborne pathogens remains even after instituting these controls.

Engineering controls: Reduce employee exposure by either removing or isolating the hazard, or isolating the worker from exposure. Self-sheathing needles, puncture-resistant disposal containers for contaminated sharp instruments, hand washing facilities, resuscitation bags, and ventilation devices are examples of engineering controls. Engineering controls must be examined and maintained or replaced on a scheduled basis to ensure effectiveness.

Work practice controls: Alter the manner in which a task is performed. In work areas where a reasonable likelihood of occupational exposure exists, work practice controls required include:

- Restricting eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses;
- Prohibiting mouth pipetting (apparatus whereby fluid is drawn by suction and retained by closing the upper end);
- Preventing the storage of food and/or drink in refrigerators or other locations where blood or other potentially infectious materials are kept;
- Requiring the use of hand washing facilities; routinely checking equipment and decontaminating it prior to servicing and shipping.

Other work practice requirements include:

- Washing hands when gloves are removed and as soon as possible after skin contact with blood or other potentially infectious materials occurs.
- Recapping, removing, or bending needles is prohibited unless the employer can demonstrate that no alternative is feasible or that such action is required by a specific medical procedure.
- When recapping, bending or removing contaminated needles is required by a medical procedure, this must be done by mechanical means, such as the use of forceps, or a one-handed technique.
- Shearing or breaking contaminated needles is not permitted.

Personal protective equipment: helps reduce occupational exposure to infectious materials. Such equipment includes: gloves, gowns, laboratory coats, face shields or masks, eye protection, etc. Personal protective equipment must also be used if occupational exposure remains after instituting engineering and work practice controls, or if those controls are not feasible.

Personal protective equipment is considered appropriate only if it prevents direct contact of blood or other potentially infectious materials with clothes, skin, eyes, mouth, or other mucous membranes. This equipment should protect the worker under normal conditions of use and for the duration of time which the protective equipment is used.

Under the standard, employers must provide, make accessible, and require the use of personal protective equipment at no cost to the employee. Personal protective equipment also must be provided in appropriate sizes. Hypoallergenic gloves

or other similar alternatives must be made available to employees who have an allergic sensitivity to gloves. Employers also must ensure that protective equipment is properly used, cleaned, laundered, repaired, or replaced as needed.

The employer must also ensure that employees observe the following precautions for safe handling and using personal protective equipment:

- Remove protective equipment before leaving the work area and after a garment becomes contaminated.
- Place used protective equipment in appropriately designated areas or containers when being stored, washed, decontaminated, or discarded.
- Wear appropriate gloves when it can be reasonably anticipated that the employee may have contact with blood or other potentially infectious materials, when performing vascular access procedures, and when handling or touching contaminated items or surfaces. Replace gloves if torn, punctured, contaminated, or their ability to function as a barrier is compromised. Never wash or decontaminate disposable gloves for reuse.
- Utility gloves may be decontaminated for reuse if their integrity is not compromised. Discard utility gloves when they show signs of cracking, peeling, tearing, puncturing, or deteriorating.
- Wear appropriate face and eye protection such as a mask with glasses with solid side shields or a chin-length face shield when splashes, sprays, spatters, or droplets of blood or other potentially infectious materials pose a hazard to the eye, nose, or mouth.
- Wear appropriate protective body covering such as gowns, aprons, caps, and boots when occupational exposure is anticipated. The type and characteristics will depend upon the task and degree of exposure anticipated.

Under the standard, clean and sanitary housekeeping must be kept for each place of employment. The employer must develop and implement a cleaning schedule that includes appropriate methods of decontamination and tasks or procedures to be performed. This written schedule must be based on the location within the facility, the type of surfaces to be cleaned, the type of contamination present, the tasks or procedures to be performed, and their location within the facility.

The employer must also ensure the following housekeeping procedures are followed:

- Clean and decontaminate all equipment and environmental and work surfaces that have been contaminated with blood or other potentially infectious materials.
- Decontaminate work surfaces with an appropriate disinfectant after completion of procedures; immediately when overtly contaminated; after any spill of blood or other potentially infectious materials; and at the end of the work shift when surfaces have become contaminated since the last cleaning.
- Remove and replace protective coverings such as plastic wrap and aluminum foil when contaminated.
- Inspect and decontaminate on a regular basis reusable receptacles such as bins, pails, and cans that have a likelihood for becoming contaminated. When contamination is visible, clean and decontaminate receptacles immediately or as soon as feasible.
- Always use mechanical means such as tongs, forceps, or a brush and a dust pan to pick up contaminated broken glassware; never pick up with hands even if gloves are worn.
- Store or process reusable sharp objects in a way that ensures safe handling.
- Place other regulated waste (liquid, liquid-blood, items contaminated with blood or other potentially infectious materials, contaminated sharps, etc.) in closable and labeled or color-coded containers. When storing, handling, transporting or shipping, place other regulated waste in containers that are constructed to prevent leakage.
- Discard contaminated sharp objects, place them in containers that are closable, puncture resistant, appropriately labeled or color-coded, and leakproof on sides and bottom.
- Ensure that containers for sharp objects (sharps) are easily accessible to personnel and located as close as is feasible to the immediate area where sharps are used or can be reasonably anticipated to be found. Sharps containers must also be kept upright throughout use, replaced routinely, closed when moved, and not allowed to overfill.
- Never manually open, empty, or clean reusable containers where sharp objects are stored.
- Discard all regulated waste according to federal, state, and local regulations.

- Bag contaminated laundry at its location after use. Never sort or rinse contaminated laundry in areas of its use. Laundry should be handled as little as possible using appropriate personal protective equipment. Wet contaminated laundry must be placed in leakproof, labeled or color-coded containers before transporting.

Hepatitis B vaccination: Employers are required to make the Hepatitis B vaccine and vaccination series available to all employees who have occupational exposure, as well as post-exposure evaluation and follow-up to all employees who experience an exposure incident. The vaccine and vaccination must be made available at no cost to the employee, provided at a reasonable time and place, and performed by or under the supervision of a licensed physician or another licensed health care provider.

Employees who decline the vaccination must sign a declination form. Employees reserve the right to request and obtain the vaccination at a later date and at no cost if the employee continues to be exposed.

The vaccine and vaccination series must be offered within 10 working days of initial assignment to employees who have occupational exposure to blood or other potentially infectious materials unless:

1. The employee has already received the complete Hepatitis B vaccination series,
2. Antibody test reveals that the employee is immune, or
3. Medical reasons prevent taking the vaccinations.

Evaluation of an exposure: Once a report of an exposure has been documented, the standard requires the post-exposure medical evaluation and follow-up be made available immediately for employees who have had an exposure incident. At a minimum, the evaluation and follow-up must include the following elements:

- Document the routes and circumstances of exposure.
- Identify and obtain consent for testing of the source individual to determine HIV and HBV infectivity and document the source's blood test results.
- Provide the exposed employee with the source individual's test results and information about applicable disclosure laws and regulations concerning the source identity and infectious status. Collect and test exposed employee's blood as soon as feasible for HBV and HIV serological status after obtaining consent.
- If the employee does not give consent for HIV serological testing during the collection of blood for baseline testing, preserve the baseline blood sample for at least 90 days.
- Provide HBV and HIV serological testing, counseling, and safe and effective post-exposure prophylaxis following the current recommendations of the U.S. Public Health Service.
- **If consent is not obtained, the employer must show that legally required consent could not be obtained. If the source individual is known to be infected with either HIV or HBV, testing need not be repeated to determine the known infectivity.**

The health care provider responsible for the employee's Hepatitis B vaccination and post-exposure evaluation and follow-up must be given a copy of the 29 CFR 1910.1030 standard. The provider must also receive a description of the employee's job duties, results of the incident investigation including the source individual's blood test results if available, and all relevant employee medical records.

When the evaluation is completed, the employee must receive a copy of the health care provider's written opinion within 15 days. The written opinion must state if the HBV vaccination is indicated and if the vaccination has been received. The written opinion for post-exposure evaluation must document that the employee has been informed of the results of the medical evaluation and of any medical conditions resulting from the exposure incident that may require further evaluation or treatment. All medical records must be kept in accordance with 29 CFR 1910.20.

Hazard communication: Communicating hazards of occupational exposure to bloodborne pathogens is accomplished through labels, information, and training.

The colors and symbols are a large part of the universal precautions system. Warning labels for bloodborne pathogens are required to be fluorescent orange or orange-red with the word "BIOHAZARD" and the biohazard symbol in a contrasting color.

These labels must be attached (by means to prevent loss or unintentional removal) to containers of regulated waste, refrigerators and freezers containing blood or other potentially infectious materials, and other containers used to store, transport, or ship blood or other potentially infectious materials.

The labels are not required when red bags or red containers are used; when containers of blood, blood components, or blood products are labeled as to their contents and have been released for transfusion or other clinical use and when individual containers of blood or other potentially infectious materials are placed in a labeled container during storage, transport shipment or disposal. The following table provides guidelines on the labeling requirements of the standard:

Labeling Requirements

ITEM	BIOHAZARD LABEL		RED CONTAINER
Regulated waste container (contaminated sharps containers)	X	or	X
Reusable contaminated sharps containers (surgical instruments soaking in a tray)	X	or	X
Refrigerator/freezer holding blood or other potentially infectious materials	X		
Containers used for storage, transport or shipping of blood	X	or	X
Blood/blood products for clinical use	No labels required		
*Individual specimen containers of blood or other potentially infectious materials remaining in facility	X	or	X
**Contaminated equipment needing service (dialysis equipment, suction apparatus)	X		
Specimens and regulated waste shipped from the primary facility to another for service or disposal	X	or	X
***Contaminated laundry	X	or	X
Contaminated laundry sent to another facility that does not use Universal Precautions	X	or	X

*No label is needed if Universal Precautions are used and specific use of container or item is known to all employees or

**Include a label specifying where the contamination exists.

***Alternative labeling or color coding is sufficient if it permits all employees to recognize the containers as requiring compliance with Universal Precautions.

Information and training must be provided at no charge to occupationally exposed employees at the time of initial assignment and on a yearly basis thereafter. Additional training is needed when existing tasks are modified or new tasks involving occupational exposure to bloodborne pathogens affect the employee's exposure. Training must be conducted by a person knowledgeable about the subject matter. The information provided must be appropriate in content and vocabulary to educational level, literacy and language of the audience. Training must contain the following:

- Information on obtaining a copy of the standard and an explanation of its contents;
- Information on the epidemiology, symptoms, and transmission of bloodborne diseases;
- Information on recognizing tasks that might result in occupational exposure;
- Explanation of the Exposure Control Plan and the means by which an employee can obtain a copy;
- Explanation of the use and limitations of work practice and engineering controls, and personal protective equipment;
- Information on the types, selection, proper use, location, removal, handling, decontamination, and disposal of personal protective equipment;
- Information on Hepatitis B vaccination such as safety benefits, efficacy, methods of administration, and availability;
- Information on who to contact and what to do in an emergency to include reporting an exposure incident;
- Information on the post-exposure evaluation and medical follow-up;

- Information on warning labels, signs, and color-coding; and
- Question-and-answer session on any aspect of training.

Recordkeeping requirements: Medical and training records must be maintained under the standard. Medical records must be kept according to 29 CFR 1910.20 and include specific bloodborne pathogens requirements. These records must be kept confidential and maintained for at least the duration of employment plus 30 years. The medical records must contain:

- Employee's name and social security number;
- HBV status including dates and any records related to employee's ability to receive vaccinations;
- Results of examinations, medical testing, and post-exposure evaluation and follow-up procedures;
- Health care provider's written opinion; and
- A copy of the information provided to the healthcare provider.

Training records must be maintained for three years and include training dates, content/summary of training, names and qualifications of trainers, and names and job titles of training attendees. These records must be available to employees or their representatives upon request.

Employers must also comply with the Arkansas Workers' Compensation Law regarding work-related injuries or illnesses. Once an employer becomes aware that an employee has become infected through occupational exposure, the employer is required to complete the Arkansas Workers' Compensation First Report of Injury or Illness (Form 1A-1).

References

Videos pertinent to this subject may be obtained from the Arkansas Department of Labor/Arkansas Workers' Compensation Commission's Health and Safety Resource Center at (501) 682-9090.

Chemical Safety

Different kinds of chemicals can be found in every worksite. Some workplaces may limit the chemicals to those found in cleaning agents, while other workplaces deal with hazardous chemicals that can be life-threatening if mishandled. It is important to identify what chemicals are used in your worksite.

Chemical manufacturers have to determine the physical and health hazards of each product they make. Then they have to let users know about those hazards by using container labels and by supplying Material Safety Data Sheets (MSDS). This information will let you know what steps to take when handling hazardous chemicals.

Hazardous chemicals can be handled safely if you learn what the hazards are for each chemical you work with, which chemicals should not be mixed together because they are incompatible, and what protective measures you should take (personal protective equipment, work practices, etc.) when working with chemicals.

Chemicals are considered “hazardous” if they can cause any degree of harm to people or the environment. Chemicals are considered hazardous if they are:

- **Corrosive:** may cause irritation or burns to the skin or eyes on contact.
- **Reactive:** may react violently, even explode, under certain conditions.
- **Flammable:** will catch fire easily.
- **Radioactive B:** emits radiation in the form of particles or electromagnetic waves.
- **Toxic:** may cause illness or in some cases death.

Chemicals that can cause health problems may either cause effects immediately (like a chemical burn) or over a long time (like smoking cigarettes). There are four ways chemicals can enter your body to cause harm:

- Skin or eye contact
- Inhalation or breathing
- Swallowing or eating (may happen if food, beverages or smoking materials are used where chemicals are present)
- Injected (may happen if you cut or stick yourself with a contaminated tool)

One of the best ways to protect yourself from chemicals is to know the hazards of the chemicals you use and take proper precautions. Two sources of information are the MSDS and the label. You may also have operating procedures that tell you of special precautions such as personal protective equipment, ventilation or special operating procedures that you must use. In addition to knowing the hazards and the precautions to take, the following are some basic rules for working around hazardous chemicals:

- Remove objects or chemicals that could burn or react dangerously with nearby materials.
- Remove food, cigarettes, and street clothing from the work area so they don't get contaminated.
- Know where emergency showers and eyewashes are located.
- Make sure the correct type of fire safety equipment is nearby and ready for use.
- Check for adequate ventilation.
- Know what to do in an emergency.
- Have someone who knows where you are and what you are doing at all times.
- Assemble the protective clothing and equipment you'll need for the job.
- Get checked out by your supervisor.
- If you have an upset or spill, clean it up quickly.
- Wear proper personal protective equipment (PPE) during the clean-up and disposal of all contaminated materials properly.
- If you are overexposed to a chemical, inform your supervisor and get medical attention. If you have a skin exposure, wash the area with water for at least 15 minutes.
- If you have a breathing exposure, get into fresh air.

Remember: Hazardous chemicals don't have to be dangerous if you handle them with respect.

Eye and Face Protection

Are you in danger of becoming a statistic?

Thousands of people are blinded each year from work-related eye injuries that could have been prevented with the proper selection and use of personal protective equipment (PPE) for eye and face protection. Eye injuries alone cost more than \$3 million per year in lost production time, medical expenses and worker compensation.

OSHA requires employers to ensure the safety of all employees in the work environment. Eye and face protection must be provided whenever necessary to protect against chemical, environmental, and radiological hazards or mechanical irritants. Ensuring worker safety includes conducting a workplace hazard assessment and providing adequate training for all workers who require eye and face protection.

Selecting the Proper Eye and Face PPE for the Workplace

A hazard assessment should be conducted, and certified, to determine the risk of exposure to eye and face hazards, including those hazards that may be encountered in an emergency situation. The following chart is an example of a Hazard Assessment.

Hazard Assessment		
Hazard Type	Examples of Hazard	Common Related Tasks
Impact	Flying objects such as large chips, fragments, particles, sand, and dirt	Chipping, grinding, machining, metal work, wood working, chiseling, riveting, sanding
Heat	Any process emitting extreme heat	Furnace operations, pouring, dipping, welding
Chemicals	Splash, fumes, vapors, and irritating mists	Acid and chemical handling, decorative plating, and working with blood
Dust	Harmful dusts	Woodworking, buffing, and general dusty conditions
Optical Radiation	Radiant energy, glare, and intense light	Welding, torch-cutting, brazing, and laser work

Criteria for Eye and Face PPE

PPE must comply with ANSI Z87.1-1989 standard. The PPE should:

- Provide adequate protection against the hazards for which they are designed;
- Fit snugly and not interfere with movements of the worker;
- Be capable of being disinfected; and
- Be distinctly marked to facilitate identification of the manufacturer.

Training on Use of Eye and Face PPE

Eye and face protection is PPE such as spectacles, goggles, face shields, or welding shields that are designed to protect the user against a variety of hazards. Each worker must be trained to know at least the following:

- When PPE is necessary;
- Limitations of the PPE;
- What PPE is necessary;
- How to properly don, doff, adjust and wear PPE; and
- Proper care, maintenance, useful life, and disposal of the PPE.

Training should be conducted by a knowledgeable designated person and presented in a manner that all employees can understand. Employees must demonstrate an understanding of the training and the ability to use the PPE properly.

Maintenance and Care of Eye and Face PPE

PPE must be used, maintained, and stored in a sanitary and reliable condition.

Handling Emergencies

Emergency eyewash stations should be placed in all hazardous areas and the path to them should be kept free and unobstructed.

First-aid instruction should be posted close to potential danger spots.

When employees are trained to work safely and follow the requirements of eye and face protection, they should be able to anticipate and avoid injury from job-related eye and face hazards.

Fire Safety

Every year in our state, people are hurt by fires in the workplace. All too often some of these people die. The best way to keep this from happening is to practice active fire prevention. Know what to do—and what not to do—in case of a fire.

What Causes Fires?

Fire happens when the right combination of fuel, oxygen, and heat are brought together and combustion is created. Oxygen is normally present in the air. Sources of fuel and heat include:

Fuel	Heat
Paper	Friction
Wood	Electricity
Gasoline & other flammable material	Sparks and open flames

The best way to prevent fires is to make sure that all three of these things—fuel, heat, and oxygen—do not come together.

Fire Prevention

There are lots of things each of us can do every day to make sure that fires don't happen in our workplace:

Housekeeping

- Dispose of waste promptly and properly.
- Keep work areas free of dust, lint, wood chips and other combustible trash.
- Keep combustible materials away from lights, machinery, and electrical sources.

Handling Flammable Substances

- Know what is flammable; check MSDSs and labels.
- Store flammables in approved containers.
- Never store combustible materials with oxidizers.
- Clean up spills promptly and properly.
- Dispose of clean-up materials (rags, sand, etc.) promptly and properly.
- Ground containers when transferring flammable materials so you don't generate static electricity.
- Use only approved tools and equipment when working around flammable materials.
- Don't use flammables around open flames.
- Use flammables in well-ventilated areas.
- Don't cut on or heat a container that held flammable material until you know it is safe.

Electrical Equipment

- Electrical equipment failures or misuse of electrical equipment is the number one cause of industrial fires.
- Make electrical inspections routine practice.
- Replace cords and wires that are frayed or have worn insulation.
- Don't overload circuits, motors, fuses, or outlets.
- Make sure you have good ground connections.

Equipment

- Make sure debris and grease are kept clear of machinery.
- Lubricate bearings and gears so they don't get hot.

Personal

- Smoke only in designated areas.
- Make sure smoking material and matches are put out and placed in proper containers.
- Use space heaters only in approved areas; make sure cords and safety shut-offs are working properly.

It's a good idea to look around your workplace every day to see if any fire hazards are there. Sometimes, because we see the same thing day after day, we forget that it could cause a problem.

FIRE! What to Do if a Fire Occurs

We hope a fire never happens here. But in case a fire should start, it is important that you know immediately what you should do. Know how to report a fire and how to get out of the building. If you don't know what to do in case of a fire, ask your supervisor now. It's too late when the fire starts.

A mistake people often make that can have tragic results is thinking that the fire is small enough to handle alone. The first thing you should always do when you see a fire is to make the proper notification. Even a small fire can get out of hand in a hurry. In some cases, it may be necessary to leave the building if a fire occurs. It is important to know where you are expected to go in the event that happens. Everyone needs to be accounted for.

If you have fire extinguishers, you should make sure you have the right extinguisher for the type of fire:

- **Class A:** Ordinary combustibles such as paper, cloth, trash, and wood.
- **Class B:** Gases and flammable liquids such as grease, oil, paint, or solvents.
- **Class C:** Electrical equipment. Never use water on fires involving electrical equipment.
- **Class D:** Combustible metals.
- **Classes ABD and BC:** Use on combination fires.

Just as important as using the right type of fire extinguisher is knowing how to use it properly:

P: Pull the pin

A: Aim the nozzle at the base of the fire

S: Squeeze the trigger

S: Sweep with nozzle until the fire is extinguished

or

1. Pull the pin
2. Stand about 8 feet from the fire.
3. Aim at the base of the fire.
4. Squeeze the trigger. Be careful not to blow burnables and create a larger fire.
5. If the fire seems too big, get out and leave it to the firefighters.

Hearing Conservation

In every worksite there is some level of noise. Whether it be the monotonous hum of the mainframe or the incessant clatter of heavy industrial machinery, repeated exposure to noise levels above 85 dBA may lead to noise-induced hearing loss. Noise, or undesired sound, is one of the most widespread occupational health problems.

Hearing loss can occur as a result of exposure to noise, both loud and soft, and can affect hearing temporarily or can result in permanent hearing damage. Hearing loss that is temporary, which results from short-term exposures to noise, will diminish after a period of rest. However, permanent hearing loss can result due to long-term exposure to noise, with normal hearing to be impaired indefinitely.

In order to prevent hearing loss, hearing protectors must be made available to all workers exposed to noise levels over the permissible limit. Hearing protectors must adequately reduce the severity of the noise level for each employee's work environment. The protectors should be comfortable to wear and offer a sufficient decrease in noise levels to prevent hearing loss. Thus, employees shall be given the opportunity to select their hearing protectors from a variety of suitable hearing protectors provided by the employer. The employer shall also provide training in the use and care of all hearing protectors provided to employees.

The first step in controlling noise levels is to identify the sources of noise in our worksite. Each of us can think of at least one source of noise that will affect our hearing. Once the sources have been identified, we can determine what interventions can be utilized to reduce the risk of noise-induced hearing loss. There are a number of hearing protectors to choose from. Each of the protectors are beneficial in reducing the level of noise, and are designed to meet the needs of all degrees of noise. Therefore, we must take the initiative to determine which protector best suits the needs of this worksite.

According to OSHA regulations, engineering controls must first be attempted to decrease the noise levels. If the engineering controls cannot be utilized in the work environment, other precautions will have to be made. There are many times when both engineering controls and hearing protection must be implemented to ensure the proper protection against noise-induced hearing loss.

The employer must also reevaluate the suitability of the employee's present protector whenever there is a change in working conditions that may cause the hearing protector being used to be inadequate. The noise measurement records of audiometric tests must be maintained for the duration of employment of the affected employee. These last two requirements are necessary for effective recordkeeping of hearing conservation programs in any worksite.

Because our hearing is so important, we must recognize the hazards in our worksite that will affect our listening skills. Creating awareness among all of the employees will decrease the likelihood of any type of hearing loss. Intervention strategies can then be implemented to reduce noise levels and to reduce hearing loss to our employees.

Keeping Your Cool When It's Hot!

Summer in Arkansas means high temperatures and high humidity. We can't do anything about the weather, but we can work and play smarter when it's hot to avoid getting sick.

First, let's review the types of heat-related illnesses:

Sunburn: Not only are sunburns painful at the time, but exposure to too much sun could lead to skin cancer.

Heat Rash: Sometimes called prickly heat, the best way to avoid this is to bathe regularly and keep your skin clean and dry.

Heat Cramps: Painful cramps, often in the legs, arms or stomach, heat cramps can happen when you are sweating heavily but are not getting enough of the minerals your body needs to replace the minerals lost in sweat. The symptoms of heat cramps may not show up until after work. Avoid heat cramps by drinking plenty of fluids and eating a balanced diet.

Heat Exhaustion: Symptoms include heavy sweating, thirst, clammy and pale skin, fatigue, weakness, and loss of coordination. A person with heat exhaustion may also be anxious, faint, confused, have a headache, nausea or vomiting, and loss of appetite. Heat exhaustion can be serious. Move the person to a cool area and encourage them to drink water to prevent dehydration. They may also need medical attention. Someone with heat exhaustion should not operate machinery, drive, or do anything strenuous until they have recovered.

Heat Stroke: Heat stroke is the most serious heat-related illness. The body has lost its ability to cool itself. Death can quickly result if not treated promptly. Usually the most striking symptom of heat stroke is the absence of sweating. The skin is red, dry, and hot. The pulse is rapid. The person may complain of headaches, dizziness, or nausea and may appear confused or delirious. Fainting, seizures, or collapse may occur. A person in heat stroke needs immediate medical attention at an emergency room or hospital. While help is on the way, move the person to the coolest spot nearby and try to cool their body. They can be immersed in water, but don't place them in ice water. Don't give them anything to drink since they may lose consciousness.

We can't do much about the weather in Arkansas except wait for fall, but there are some things you can do to help reduce the likelihood that you will have a heat-related illness:

1. Gradually get used to working in the heat. It takes about two weeks for your body to adapt to hot conditions. If you are away for as little as a week (on vacation, for example) your body loses this ability; you will have to get used to the heat again.
2. Dress for the heat. Light colored, loose clothing (that won't get caught in machinery) is better than going bare skinned.
3. If you will be outside wear a hat; use sunscreen to prevent sunburn.
4. Drink plenty of fluids throughout the day. Make sure you have ample cool, clean water on the job. Your body needs water before you feel thirsty. Water, fruit juice, or sports drinks are best. Sodas, coffee, and tea all contain caffeine and should not be your main source of fluids.
5. Limit your intake of alcohol. Alcohol causes dehydration and can be a big contributor to the more serious heat-related illnesses.
6. Eat well-balanced meals. You need to make sure your body's stores of vitamins and minerals don't get depleted. Fresh fruits and vegetables contain needed nutrients plus water.
7. Get plenty of rest. We all have lots of things going on during the summer, but when we don't get enough rest that puts additional stress on our bodies.
8. Take frequent breaks in the shade or a cooler area. These breaks help reduce the heat load on your body.
9. Plan your work to take advantage of cooler morning hours. Move work to shaded areas when possible.
10. Keep an eye on new hands who aren't used to the heat and co-workers who have health conditions that may make them more susceptible to heat-related illnesses. If someone looks like they are having heat exhaustion or a heat stroke take action fast to get them to a cool area and get medical attention.

Take care of yourself and your co-workers this summer and you'll have it "**Made in the Shade!**"

Personal Protective Equipment

Personal protective equipment, or PPE, is defined as “all clothing and other work accessories designed to create a barrier against workplace hazards.” PPE should not be used as a substitute for engineering, work practice, and/or administrative controls. Personal protective equipment should be used in conjunction with these controls to provide for employee safety and health in the workplace. This equipment must be properly fitted and maintained in a clean and serviceable manner.

Personal protective equipment must not be altered or not worn, even though an employee may find it uncomfortable. Because PPE is so important, it should be as comfortable as possible. Offering different types of PPE can also encourage employees to use the proper PPE. It is management’s responsibility to determine the types of PPE to be used on the job at a particular worksite, but it is everyone’s responsibility to see that it used properly.

Some necessary PPE includes the following:

- **Ear plugs and muffs** will help protect against hearing loss. The type selected and worn must be appropriate to protect against the hazards of the job.
- **Gloves** can protect the hands from extreme temperatures, chemicals, sharp objects, and other workplace hazards. The type of glove must be appropriate for the hazard. For example, glove materials offer different amounts of protection against different chemicals. This information is available from the glove manufacturer.
- **Respirators** can protect you from hazardous fumes, vapors, dusts, and particulates. A respirator should fit snugly around the face. As with gloves, the respirator should be appropriate to protect against the hazards of the job.
- **Safety glasses and goggles** can protect the eyes from flying debris, chemicals and other hazards.
- **Hard hats** can protect from low-hanging, falling and flying objects.
- **Coveralls** are usually used to prevent contamination of personal clothing and to prevent transfer of materials to your vehicle and home. Some coveralls are made of materials that will protect against other hazards, such as chemicals and temperature extremes.
- **Safety boots and shoes** protect the feet and toes against being struck by sharp or falling objects. Some jobs may require metatarsal guards in addition to the steel-toed protection. Safety boots and shoes may also provide protection against slipping hazards on wet or slippery surfaces.

While PPE does not eliminate hazards, it can protect employees against those hazards. Employees must be trained in the use, limitations, care, and maintenance of all PPE to be used on the job. Only then can it provide the protection for which it is designed to do.

Respiratory Protection

Sometimes the air we breathe may not be free of harmful substances that can cause cancer, lung impairment, other diseases, or even death. Wearing the proper respirator, properly, can protect workers from insufficient oxygen environments, harmful dusts, fogs, smokes, mists, gases, vapors, and sprays.

Respiratory Protection Program

A written respiratory program is required:

- When respirator use is required by the employer and/or
- When half-mask respirators are worn voluntarily by employees (partial program).

Elements of a Written Respirator Program

- A medical evaluation must be done to make sure employee can safely wear respirator.
- Worker must be fit-tested to determine type and size needed.
- Worker must be trained how to test, use, clean, and store respirator.
- Voluntary respirator usage:
 - * Medical evaluation, training as to use, cleaning, storage, copy of App D
 - * If dust masks only, only need to provide copy of App D

Types of Respirators

- Air purifying respirators filter the air being breathed to remove contaminants.
- Supplied air respirators provide clean air from another source.

Safe Lifting and Handling Techniques

To prevent back injuries, it's important to adopt safe lifting techniques and avoid known hazards.

Safe Lifting Techniques

There are eight steps to performing a lift in a safe manner:

1. Size up the load.
2. Plan the job.
3. Establish a base support.
4. Bend your knees.
5. Get a good grip.
6. Keep the load close.
7. Lift with your legs.
8. Pivot; don't twist.

Size Up the Load

Always assess the object before lifting it. Make sure the load is stable and balanced. Carefully and slowly put force against the object to determine its weight. **If it is too heavy, get help!**

Plan the Job

Plan a route that is free of tripping and slipping hazards. Ensure that the planned route allows for easy travel. Know where the object will be unloaded and plan for rest stop if necessary. Think through the lift -lift the load in your mind. Face the object you are about to lift and, if possible, face the direction you want to go. **Do not twist your body.**

Establish Base of Support

Make sure you have a firm footing. Keep your feet at least shoulder width apart. A staggered stance, with one foot slightly behind the other, often helps provide a firm base of support.

Bend Your Knees

Bend at your knees, not at your waist. Bend or squat down as far as necessary using your legs and not your back. Tuck your chin in toward your chest. This will help keep your back straight. In this position, your knees are bent and your back is straight from your hips to your shoulders, as if you were in a sitting position.

Get a Good Grip

Place your hands at opposite sides of the object. Grip the load firmly, using your whole hand, not just your fingers. Pull your elbows in close to your body.

Keep the Load Close

Keep the load close to your body. The closer it is to your spine, the less force it exerts on your back. Maintain the natural curve of your lower back. Keep your back upright. Whether you are lifting or putting down a load, do not add the weight of your body to the load. **Ten pounds at arms length is like lifting 100 pounds.**

Lift with Your Legs

Lift with your legs to allow your body's powerful leg muscles to do the work. Flex your knees and hips, not your back.

Avoid bending at the waist!

Pivot; Don't Twist

Don't twist your body when moving objects that have already been lifted. Pivot your feet and turn your entire body in the direction of movement.

Back Safety Tips

- If an object is too big to lift, and weight is not a factor, push the object instead of pulling it. Lean into the object and let your body weight and thigh muscles do the work. Pushing out is less strain on the back.
- Keep loads out of the danger zone by keeping the load between shoulder and knuckle height. Working in the danger zone increase the chance of injury.
- Plan rest stops along your route. Muscle fatigue increase the risk of injury.
- Lower the load slowly, by bending your knees and hips. After releasing the load straighten up using your legs. Remember, you can injure yourself putting a load down as well as picking it up.
- Choose the safest and quickest route to your destination. Avoid stairs and other areas that provide poor footing if at all possible. If you must use stairways, get help and use equipment designed for moving up and down stairways when possible.
- Don't reach over a surface to pick up an object. If you can't get closer to the object, slide it toward you.
- Tighten the abdominal muscles (stomach) to give added support to the spine. This will help you offset the force of the load.
- Don't obstruct your view by stacking objects too high. This is of the quickest routes to an injury.
- Keep the worksite clean in order to avoid slipping or tripping hazards. Good housekeeping eliminates a lot of unnecessary injuries.
- Don't twist. Twisting is one of the most damaging movements for the back. When bending is added, the two multiply the risk of a back injury substantially
- Move the load in a smooth motion. Don't use jerky movement. Jerky movements not only increase the chance of strain or sprain, but also may throw you off balance.
- Walk using short steps with your feet far enough apart to maintain a good balance.
- Break large loads into smaller loads whenever possible.
- Use assistive devices such as dollies, winches, pulleys or forklifts when at all possible. These devices will help reduce the possibility of back injuries.

and

THINK before you lift !!!!

References

Videos pertinent to this subject may be obtained from the Arkansas Department of Labor/Arkansas Workers' Compensation Commission's Health and Safety Resource Center at (501) 682-9090.

Slips, Trips, and Falls

The primary cause of injuries in the workplace is falls. Slips and trips are the major contributors to falls. Approximately 20 percent of fall injuries result in death. At the same time, the hazards of slips, trips, and falls are some of the easiest hazards to reduce or eliminate.

Let's look at some of the more common causes of slips, trips, and falls.

- Slippery floors created by water, oil, grease, food, or ice.
- Aisles, passageways, or stairs that are partially blocked by boxes, tools, scrap material.
- Climbing on unstable materials.
- Unguarded floor edges, openings or holes, or scaffolds.
- Using boxes, chairs, tables, etc. for climbing instead of ladders.
- Not using ladders properly or safely or using defective ladders.
- Carrying loads that block vision.
- Poor lighting on stairs or other walkways.
- Improper clothing, including pant cuffs too long, or improper footwear.

Now, let's look at how to avoid those hazards.

- Clean up spills, scrap material, or other items that may cause slips, trips, or falls.
- Use only ladders and scaffolds that are safe and use them properly.
- Guard open-sided floors, floor openings, or floor holes.
- Make sure walkways and rooms have adequate lighting.
- Wear proper clothing, including clothes that fit, non-slip footwear, etc.

Slips, trips and falls occur every day. Their occurrence, and the extent of the injuries they cause can be eliminated by using safe equipment and by practicing safe work procedures. Don't be a statistic—watch your step and practice safety.



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Health and Safety Tool Kit