50 More Tips For More Effective Safety Training

Volume 2

Training Today
SPECIAL REPORT

50 More Tips For More Effective Safety Training

Volume 2
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Chemical hazards: Pesticides

Boot camp for pesticide workers

Why it matters …

- The Environmental Protection Agency (EPA) estimates that 10,000 to 20,000 workers are diagnosed with pesticide poisoning every year.
- EPA regulations, as specified in 40 CFR 170.130, require employers to train employees who use pesticides on the job.
- The Occupational Safety and Health Administration’s (OSHA) Hazard Communication Standard (29 CFR 1910.1200) (HazCom) also requires worker training, as well as warning labels and access to safety data sheets (SDSs) when employees handle or work around pesticides on the job.

Because pesticides are so commonly used, it’s easy for workers to forget that these products contain some very hazardous chemicals—substances that can injure or even kill those who fail to take the proper precautions. Proper training to prevent dangerous exposures is essential.

Begin with the basics. Basic training for pesticide workers begins with the following information:

- Where and in what form pesticides may be encountered during work activities
- Hazards of pesticides resulting from toxicity and exposure, including acute and chronic effects, delayed effects, and sensitization
- Routes through which pesticides can enter the body
- Signs and symptoms of common types of pesticide poisoning
- Emergency first aid for pesticide injuries or poisonings
- How to obtain emergency medical care
- Routine and emergency decontamination procedures, including emergency eye-flushing techniques

What the well-dressed worker is wearing. When you’ve covered the basics, it’s time to move on to personal protective equipment (PPE). Employees who handle and use pesticides must wear the PPE specified on the pesticide container label. More information about protection can be found in the SDS for the product. Minimum protection when working with pesticides includes long sleeves, long pants, shoes, socks, rubber gloves, and splashproof eye protection. Respirators may be required when there is the risk of inhaling mist, dust, or fumes.
Make sure workers don’t get mixed up when mixing. Unless proper precautions are taken, harmful exposures can easily occur when employees are preparing pesticides for use. For example, employees should always:
- Read the label and/or SDS before mixing chemicals.
- Don proper protective equipment, including coveralls, gloves, boots, goggles, hat, and respirator if required.
- Mix pesticides in a well-ventilated area, preferably outdoors.
- Follow instructions for mixing on the label, measuring carefully and using only the amount specified on the label.
- Keep mixing containers below eye level to prevent splash-ups.
- If pesticides splash or spill on skin or clothing, remove contaminated clothes immediately and wash thoroughly with soap and water.
- Clean up any spills promptly, following instructions on the label or SDS.

Review the rules for safe application. Of course, workers also need to take precautions when applying pesticides. For example, they need to:
- Inspect equipment before use to make sure it is in good condition, checking for loose connections, leaking hoses, dirty filters, or plugged or worn nozzles.
- Make sure there are no people or animals in the area or downwind of application areas.
- Apply only the amount specified on the label at the recommended rate.
- Make sure pesticides don’t contaminate ponds, streams, or other bodies of water.
- Use precautions to prevent contamination.

Teach them how to avoid contamination. To prevent personal contamination, employees who work with pesticides should always follow these basic precautions:
- Read labels and SDSs before using any pesticide.
- Wear required PPE and protective clothing.
- Avoid touching eyes, nose, or mouth with contaminated hands.
- Wash thoroughly before eating, drinking, chewing gum, smoking, or using the toilet.
- Wash immediately in the event of direct skin exposure to pesticide.
- Shower after work and put on clean clothes.
- Wash work clothes separately from other laundry.
- Get medical attention if pesticides are inhaled or swallowed.

And don’t forget about safe storage. Pesticides should be stored in a labeled container—preferably the original container. Containers should be tightly sealed and checked regularly for leaks or deterioration. Storage areas should be marked with pesticide warning signs. And pesticides should be protected from temperature extremes.
Chemical hazards: Poison

Danger! Poison! Identify hazards at work and at home

Why it matters …

◆ OSHA estimates that as many as 60,000 deaths and 860,000 occupational illnesses annually can be attributed to exposure to toxic chemicals in the workplace.
◆ Studies indicate that absorption of chemicals through the skin is the most common means of poisoning (more than twice as common as exposure through inhalation) and can occur without being noticed by an unprotected worker.
◆ Every 7 minutes a child under the age of 5 ends up in the emergency room because of unintentional poisoning in the home.
◆ Most home poisonings were caused by the misuse of common household products, says the U.S. Consumer Product Safety Commission.

Keep alert to poisoning hazards on the job. Most workplaces contain toxic chemicals, and those substances can poison unprepared and unprotected employees in minutes or slowly over time. There are plenty of ways toxic chemicals can get into the body. For example, they can be inadvertently swallowed if a worker has chemicals on his hands when he wipes his mouth. Or, if after working with a toxic chemical, an employee eats, drinks, or smokes without first washing his or her hands. Even more likely, chemicals can enter the body through the skin, or they can be inhaled. To prevent poisoning on the job, train employees to take these basic precautions:
◆ Always wear assigned PPE and make sure it fits properly.
◆ Keep food, coffee mugs, soda cans, and other personal items out of the work area.
◆ When working around chemicals, wash thoroughly before eating, drinking, smoking, applying makeup, putting in contact lenses, or using the toilet.
◆ Wash immediately after any potential exposure to a toxic chemical.
◆ Change out of work clothing that may have been contaminated by toxic substances and shower or wash thoroughly before going home.
◆ Launder potentially contaminated work clothes separately from family laundry.
◆ Store street clothes separate from work clothes and away from any possible poisonous substances.

Prevent poisoning at home. Most poisonings happen in the home, and most incidents involve young children. Make sure your employees know how to poison-proof their homes by recommending the following simple but effective precautions:
◆ Keep all household cleaning products, medicines, and chemical products in home workshops and garages out of reach of the children—preferably in locked cabinets above waist height.
Store cleaning products in their original, labeled containers, and keep them separate from food and beverages.

When working with products that contain hazardous ingredients, never let them out of your sight if children are in the house.

Follow instructions for use on the label (e.g., adequate ventilation), and use recommended protective equipment (e.g., gloves).

Close tamperproof tops on medicine containers carefully after use.

If you take medication at night, turn on the light to make sure you reach for the right bottle.

Keep the number for the Poison Control Center by your phone.

**Compressed gases**

**Working with compressed gases**

29 CFR 1910.101-105

**Why it matters …**

- Compressed gas is often flammable and can explode like a bomb.
- When ignited, cylinders can also be as destructive as a missile, flying through the air, spinning, ricocheting, and crashing through anything in their path.
- Some compressed gases are toxic and can make workers sick—or kill them.
- All too often workers don’t recognize, or sufficiently appreciate, these serious hazards and, as a result, fail to take appropriate precautions.

Compressed gas cylinders must be manufactured to meet various safety standards and they come equipped with a variety of safety features. Even so, compressed gases cause numerous workplace accidents every year—some of them fatal.

**OSHA has specific storage requirements.** Although there is some variation depending on the gas, all cylinders must be stored:

- In a dry, well-ventilated area
- At least 20 feet from combustible materials, heat sources, or electrical wiring
- Away from stairs and elevators
- In locations where they are unlikely to be knocked over or banged
- Upright, secured by a chain or cable
- At least 20 feet from oxygen cylinders
- With valves closed and valve protection caps screwed down
- With the oldest cylinders placed so that they will be used first
**Accident potential increases when cylinders are moved.** Train your employees to be very careful and to follow these handling precautions:

◆ Move cylinders secured upright to a hand truck or other appropriate device.
◆ Keep valve protection caps on when moving them.
◆ Don’t try to carry cylinders by hand, roll, or drag them.
◆ Make sure not to bump, bang, or drop cylinders.
◆ Keep them away from sparks, heat, fire, and electrical circuits while moving them.
◆ Avoid handling cylinders with oily or greasy hands.
◆ Be careful of fingers and avoid pinch points.

**Compressed gases can be deadly if not used safely.** Any employee who works with compressed gases needs to know about these key safety precautions:

◆ Use cylinders only in well-ventilated areas.
◆ Keep them away from heat and ignition sources.
◆ Never smoke around compressed gas cylinders.
◆ Make sure they are secured upright when in use.
◆ Open valves slowly, making sure they are pointed away from co-workers.
◆ Don’t try to force valves that won’t open. Report the problem.
◆ Don’t tamper with safety devices.
◆ Make sure that equipment is compatible with the cylinder pressure and contents.
◆ Check all connections before use and periodically during use to make sure they are not leaking.
◆ Keep valves closed when cylinders are not in use.
◆ When a cylinder is empty, close the valve, disassemble equipment properly, replace the valve protection cap, mark the cylinder “empty,” and store it separately from full cylinders.
Confined spaces

Where training can make the difference between life and death
29 CFR 1910.146

Confined spaces are dangerous places. They often contain numerous hazards—some potentially fatal. That’s why everyone associated with a confined space entry has to be properly trained and work together to make sure the workers who go in come out safely.

Bring them back alive. Authorized entrants are the ones at risk from the moment they step inside a confined space until they exit. They must be trained to:

- Identify confined space hazards and the potential consequences of those hazards to their safety and health.
- Recognize the signs and symptoms of dangerous exposures.
- Operate any equipment necessary to test, monitor, and ventilate the atmosphere in a confined space; communicate with others working inside and outside the space; and protect themselves from exposure to hazards.
- Wear a harness attached to a retrieval line (or when appropriate, wristlets) to allow for a speedy rescue in an emergency. (Of course, entrants generally also need to wear other PPE, such as a hard hat, eye protection, and protective clothing.)
- Remain in contact with the attendant outside the space, alerting the attendant immediately to any signs of exposure or other danger in the space.
- Know how to leave the space quickly and safely after identifying a problem or getting a signal or order from the attendant or entry supervisor to evacuate.

Why it matters …

Your confined space entrants could face life-threatening hazards such as:

- Flammable gas, vapor, mist, or dust at levels high enough to cause a fire or explosion
- Toxic, gas, vapor, mist, or dust at levels high enough to cause illness or death if inhaled
- Oxygen levels below what you need to breathe, causing suffocation
- Liquids or flowing solids (e.g., sand) that could cover, bury, or smother
- Entrapping design (e.g., walls that curve in, floors that slope and taper down)
- Heat high enough to cause exhaustion or heatstroke
- Falls caused by damp floors, slippery handholds, or entrapping spaces
- Noise that could damage hearing or make it hard to hear directions or warnings
- Energy and/or equipment that could cause electrocution, fire, or explosion
Make sure they understand their job is serious. Attendants must remain just outside a confined space during the entire entry operation to monitor and protect the entrant. Attendants must be trained to:

- Identify the hazards of the space, the consequences of exposure, and the signs and symptoms of exposure.
- Maintain an accurate count of authorized entrants and know who is in the space.
- Remain in constant contact with workers in the space.
- Monitor activities that could affect the safety of entrants inside and outside the space.
- Order entrants to evacuate immediately if conditions inside or outside the space could endanger entrants, if a worker in the space shows signs of dangerous exposure, or if the attendant can’t safely and effectively perform his or her duties.
- Summon rescue services when necessary or perform nonentry rescues when authorized and practical. (Nonentry rescue might, for example, involve using a retrieval line and winch to pull out entrants in trouble.)
- Keep unauthorized people away from the space and alert the entry supervisor if any such people enter the permit area.

Attendants should never:

- Leave their post even for a moment (if they need a break, another trained attendant must take their place).
- Enter the space for any reason (including an attempt to rescue entrants).

Select and train them very carefully! Entry supervisors are responsible for the overall entry operation. They must be trained to:

- Understand and be able to identify confined space hazards and communicate these to entrants and attendants.
- Recognize the signs and consequences of dangerous exposures and describe these to entrants and attendants.
- Make sure the entry permit is complete and that listed tests and hazard removal controls have been completed; listed procedures are followed; listed safety, communications, and rescue equipment is in place; and rescue services are available.
- Sign, date, and post the permit outside the confined space.
- Make sure no one enters the space until the supervisor has determined it to be safe and has posted the permit.
- Remove unauthorized people from the permit area when alerted by an attendant.
- Cancel the entry and the permit when operations are complete and all entrants are accounted for. (A permit should also be canceled if a dangerous condition arises and entrants have to be evacuated.)
Electrical safety

Can’t touch this! Plug in to these electrical safety tips
29 CFR 1910 Subpart S

Why it matters …

◆ The human body is a good conductor of electricity. Given enough voltage, electrical current can stop a heart in seconds, and in fact, electrocution is among the main causes of workplace deaths.

◆ Electricity can also be converted into heat by the body and literally cook a victim. This can happen even at a fairly low voltage as long as the power is high enough to heat the body faster than it can get rid of the generated heat.

In training, be sure to emphasize basic electrical safety with your “unqualified” workers (those who haven’t been trained to work with live electrical parts according to the requirements of 29 CFR 1910.332). After all, employees don’t have to be electricians or do electrical repair work to come in contact with dangerous electricity. Just working with electrical equipment could put them at risk. Here are some key training points you can use to help keep all your workers safe.

Don’t use …

◆ Cords or wires with damaged or worn insulation.

◆ Electrical equipment that smokes, sparks, shocks, smells, blows a fuse, or trips a circuit.

◆ Any non-ground-fault circuit interrupter outlet in a wet area.

◆ Cords or electrical equipment in areas with explosive or flammable materials that are not approved for this specific use.

◆ A cord with a bent or missing grounding plug.

◆ A metal ladder or hard hat when working near electricity.

◆ Metal tools to work on electrical equipment.

◆ Electrical cords to raise or lower equipment.

◆ Extension cords unless necessary, and then only use a cord that is rated high enough for the job.

Don’t touch …

◆ Anything electric when your hands are wet, when you’re standing on a wet floor, or when you’re in contact with a wet surface.

◆ An electrical fire or an electrical shock victim.

Don’t place …

◆ Cords where they can be stepped on, run over by material-handling equipment, or damaged in any other way.

◆ Cords near heat or water.

◆ Sharp fasteners or nails on electrical cords.
Don’t permit ...

◆ Overloaded outlets or circuits
◆ Loose electrical connections
◆ Dust or dirt buildup on machinery
◆ Blind reaches into any areas that may contain energized parts
◆ Combustible trash on or around electrical equipment or circuits
◆ Anyone who isn’t trained and qualified to repair electrical equipment
◆ Attempts to use or start locked or tagged out electrical equipment
◆ Unauthorized removal of a lockout device or tag
◆ Any hesitation in calling trained emergency responders for electrical fires, shock, or serious burns

Foot safety

Toe-tapping tips for better foot protection

29 CFR 1910.136

Why it matters …

◆ Foot-related injuries are more common than most people think—about 500 a day in U.S. workplaces.
◆ The majority of those injuries occur when workers aren’t wearing the right foot protection.
◆ The two major categories of work-related foot injuries are injuries from punctures, crushing, and lacerations; and injuries resulting from slips, trips, and falls, including sprains and broken bones.
◆ A single foot injury can cost your company thousands of dollars in medical bills and lost work time.

Most of your employees probably don’t think much about their feet—until a foot is injured or begins to hurt. Damage to even one bone, ligament, or muscle in the foot can be very painful and make it difficult or impossible for workers to keep on their feet and do their jobs.

There are all kinds of hazards waiting for unprotected feet. Foot injuries on the job can result from:

◆ Broken bones caused by heavy falling or rolling objects
◆ Bruises and stubbed toes caused by bumps
◆ Puncture wounds from sharp objects
◆ Sprains from slips, trips, and falls
◆ Amputations caused by machinery and tools
◆ Burns from hot or hazardous substances
◆ Electrical shock from electrical hazards
OSHA says make them wear the right protection for the job. The regulations (Section 1910.136) require foot protection when there is a danger of foot injuries. Depending on the specific hazards, employees may need to wear special foot protection such as:

- Rubber or wooden-soled shoes for wet or slippery surfaces
- Reinforced impact-resistant work shoes or boots to protect feet and toes from being bruised or crushed
- Rubber or neoprene boots to protect against chemical hazards
- Metal insoles or reinforced soles to protect against punctures
- Nonconducting shoes, with no metal or nails, for working around electricity

Foot-safe footwear prevents the agony of the feet. Even when special protective footwear isn’t needed, work shoes or boots should:

- Fit comfortably, without slipping or pinching the foot or toes.
- Be solidly constructed of sturdy materials that can resist wear and tear.
- Provide good foot support.
- Have low heels and nonskid soles for good traction.
- Be in good condition, with no rips or holes.
- Fasten securely; laces shouldn’t drag on the floor.

Put your best foot forward to prevent foot injuries. Teach employees these general foot safety rules as well:

- Identify foot hazards for your job and select the proper foot protection.
- Always wear appropriate foot protection whenever there is a risk of foot injury.
- Keep alert to foot hazards and avoid careless or risky behavior that could result in a foot injury.
- Watch where you’re going and walk, don’t run, from place to place.
- Always pay attention to where you place both your feet.
Forklifts and seat belts

Fasten those seat belts
29 CFR 1910.178

Why it matters …

- As with any other kind of vehicle accident, wearing a seat belt while operating a forklift can minimize injuries and save lives.
- The safest place for a forklift operator to be in the event of a rollover is strapped into his or her seat, protected by the ROP.
- In case after case, investigators of forklift fatalities almost always list, “Ensure that all workers wear seat belts on forklifts” as one of the recommendations for preventing future accidents.

Forklift operators should wear seat belts. Why? Analysis of forklift accidents reveals that the operators who were injured or killed were often not wearing seat belts. While seat belts can’t prevent accidents, they can prevent serious injuries and save lives. Here are three real accident reports that tell the story:

1. An employee was using a forklift to move waste material into a large, drive-in waste Dumpster on the company’s outdoor loading dock. He’d just dumped a load and was backing out of the Dumpster when he backed off the side of the loading dock, falling just under 4 feet to the pavement below. Since he wasn’t wearing a seat belt, he was thrown from the forklift and was crushed under the truck’s rollover cage. He died 9 days later.

2. An employee was driving an unloaded forklift down a ramp with a 13 percent slope when the forklift started to tip over. The operator attempted to jump clear, and the rollover protective structure (ROP) landed on him and killed him. The employee was not wearing the supplied seat belt.

3. A forklift operator drove his truck down a ramp rapidly and appeared to be attempting to make a sharp left turn. The forklift overturned. Apparently, the employee was unaccustomed to the quickness and sharp turning radius of the new forklift. He was also not wearing the provided seat belt, and when he fell from the seat, his head was caught under the overhead protective cage.

What OSHA says about forklifts and seat belts. Here’s a direct quote:

“OSHA’s enforcement policy on the use of seat belts on powered industrial trucks is that employers are obligated to require operators of powered industrial trucks that are equipped with operator restraint devices, including seat belts, to use the devices. CSHOs [Compliance Safety and Health Officers] will enforce the use of such devices under Section 5(a)(1) of the OSH Act.”

Getting operators to wear their seat belts—easier said than done! Some common complaints from operators are that the seat belts are restricting and that it’s easy to forget to put the belt on when they have to get in and out of a truck a lot. Keep in mind that you are likely to hear the same kinds of excuses you get from
employees who fail to use other kinds of required PPE. So use the same type of approach when combating those objections. For example:

- Tell forklift operators that they’re required to use seat belts, and enforce your policy the way you do all your other safety rules. (Lax enforcement of seat belt rules is frequently cited as an important reason so many operators fail to use them.)
- Recount stories like the ones above, and if you can, use pictures of one of these accidents. Some employees may scoff, but that ugly picture is going to stick with them somewhere in the back of their minds—and it might just make them snap on the belt.
- Remind them that no matter how much a nuisance wearing a seat belt might be, it’s worth it to ensure that they can go home to their families and friends safely.

Of course, another option is to refit your forklifts with seat belts that won’t allow the operator to start up the forklift unless the belt is buckled. For a modest per-truck cost, you can improve compliance. But you still have to monitor, because operators can just buckle the belt and sit on it. So you still have to get them to see the importance of wearing a seat belt. And then you’ve got to keep a sharp eye on them to make sure they always do.

Forklifts and tipovers

Tips about tipovers
29 CFR 1910.178

Why it matters …

- It’s estimated that somewhere between 20 percent and 30 percent of forklift accidents involve tipovers.
- Many of these accidents result in fatalities, especially when the operator is not wearing a seat belt.
- Experience proves that operators who are properly trained, keep within the forklift’s load capacity, and follow rules of safe operation avoid tipovers.

What causes tipovers? Common causes of forklift tipovers include:

- Exceeding the load capacity of the forklift
- Excessive speed when turning
- Turning on an inclined or uneven surface
- Getting too close to an edge
- Traveling with the load raised too high
- Turning or braking suddenly with a raised load
- Tilting a raised load too far forward

The two types of tipovers to watch out for. Forklifts can tip forward (longitudinal tip) or sideways (lateral tip). For example:
1. An operator drives a loaded forklift down a ramp. Because he is traveling with the load in front and raised too high, the forklift tips forward as he goes down the ramp (longitudinal tip).

2. A forklift operator transports a pallet from a warehouse to an outside storage yard. As he turns from an asphalt-paved alley onto the gravel-surfaced storage yard, the forklift tips to the outside of the turn (lateral tip).

**Take steps to prevent tipovers.** The best way to avoid forklift tipovers is to make sure operators are properly trained and tested to prove their proficiency. OSHA requirements for operator training can be found in 29 CFR 1910.178. Here are some other tips for avoiding tipovers:

- Never exceed the load capacity of a forklift.
- Take turns slowly.
- Never turn on a ramp.
- Make sure the load is always facing uphill when going up or down inclines.
- Keep forks low when traveling (no more than 4 to 6 inches above the ground).
- Watch out for dips, potholes, and edges.
- Keep the load tilted back while traveling.
- Tilt the mast forward only when picking up or dropping off a load.
- Don’t turn or brake suddenly with load raised.
- Be alert to the mast’s clearance when traveling through doorways or in areas where there are pipes or other overhead obstructions.

**What to do in the event of a tipover.** Forklift operators should be instructed to stay with the forklift if it starts to tip over. Intuition might tell operators that they would be safer if they tried to jump clear, but experience proves that this is not true. When a forklift starts to roll, it might appear that there’s plenty of time to jump clear safely. But as the forklift continues into a roll, it accelerates rapidly. An operator who attempts to jump clear could be pinned by or crushed under the vehicle. The best protection in a tipover is to wear the seat belt and stay belted in until the forklift has come to rest and help arrives.

### Hazard Communication

**What your workers don’t know can hurt them**

29 CFR 1910.1200

<table>
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<th>Why it matters ...</th>
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<tr>
<td>- There are over 650,000 hazardous chemical products found in over 3 million workplaces across America.</td>
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<tr>
<td>- More than 32 million American workers are exposed to hazardous substances in their workplaces.</td>
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<td>- Hazard communication violations are consistently on OSHA’s top 10 most frequently violated standards.</td>
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Employees have the right and the need to know. Workers today are protected against chemical hazards in part by the requirements of OSHA’s HazCom (1910.1200). In 2012, OSHA revised HazCom to align with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

GHS is a system for standardizing how chemicals are labeled and classified across the globe. It provides a standardized way to determine how hazardous chemicals can affect health and safety. GHS is intended to improve understanding of hazards and lead to better handling and use of chemicals in the workplace.

HazCom requires your organization to have a written hazard communication program that covers everything from hazard identification to preventive measures to employee training. Also known as the Right-to-Know law, HazCom is a long and detailed standard, but it’s based on a short and simple concept—your employees have a right to know and understand the chemicals with which they work and how to work with them safely.

HazCom GHS has the following requirements:

- **Hazard classification:** Chemical manufacturers and importers are required to determine the hazards of the chemicals they produce or import. Hazard classification under the new, updated standard provides specific criteria to address health and physical hazards as well as classification of chemical mixtures.

- **Labels:** Chemical manufacturers and importers must provide a label on all shipped hazardous chemical containers that include a signal word, pictogram, hazard statement, and precautionary statement for each hazard class and category.

- **SDSs:** The standardized format requires 16 specific sections, ensuring consistency in presentation of important protection information.

- **Information and training:** To simplify understanding of the system, the standard requires that all employers train their workers on the label elements and SDS format.

Make sure HazCom training covers all the basics. OSHA stresses that the training provisions of 1910.1200 are not satisfied solely by giving employees an SDS to read or telling them to look on the label for hazard information and required precautions. Specific training requirements in Paragraph 1910.1200(h) include:

- Information about the standard

- Operations in the work area where hazardous chemicals are present

- Location and availability of your written hazard communication program, including lists of hazardous chemicals and SDSs

- Methods used to detect the presence or release of a hazardous chemical in the work area (sampling and monitoring, for example)

- The physical, health, simple asphyxiation, combustible dust, and pyrophoric gas hazards, as well as hazards not otherwise classified, of the chemicals in the work area

- Measures workers can take to protect themselves from these hazards, including specific procedures such as appropriate work practices, emergency procedures, and PPE

- An explanation of the labels received on shipped containers and the workplace labeling system used by the employer; the SDS, including the order of
information and how employees can obtain and use the appropriate hazard information

**That's a lot to cover, but ...** Remember that you don’t have to conduct a training session on each specific chemical found in your facility. Training sessions can cover categories of hazards—for example, carcinogens, sensitizers, or acutely toxic agents. And while you will have to provide additional training whenever a new physical or health hazard is introduced into the work area, you don’t have to retrain every time you introduce a new chemical as long as it doesn’t pose new hazards. Of course, you still have to make sure that new employees know the specifics of your organization’s hazard communication program, such as where the SDSs are located, details of your in-plant labeling system, and the hazards of new chemicals to which they will be exposed.

**Don’t forget about temps and non-English-speaking employees.** Temporary workers must also receive hazard communication training. Temporary agencies are only responsible for providing generic hazard training and information concerning categories of chemicals temps may potentially encounter. You are responsible for providing site-specific hazard training. And if yours is a multilingual workplace, OSHA reminds you that hazard communication training must be “comprehensible” to all affected employees. So if you have employees who are not proficient in English and who receive job instructions in a language other than English, hazard communication training and information to be conveyed under the HazCom will also need to be conducted in a foreign language.

**Hot work**

**Hot tips for working in the heat**

**Why it matters …**

- The combination of heat, humidity, and human labor can be deadly.
- Every year thousands of workers end up in the emergency room suffering from heat-related illness—and some of them end up dying.
- Training workers to understand heat hazards and how to take the proper precautions to prevent heat-related illness will not only protect their health, it will also keep them on the job where you need them, even on the hottest days.

**Health risks rise along with the mercury.** Those who must work outdoors in high temperatures—or indoors where processes or inadequate air-conditioning create a steamy hot environment—see a different side of summertime than most. Because heat can cause a range of ailments from discomfort to death, it’s essential that your workers, and their supervisors, understand the risks and how to protect against them. That means with summer on your doorstep and the temperatures already starting to soar, this is the right time to arrange some “hot” safety training. You’ll want to explain the possible health hazards of working in the heat, along with precautions for avoiding illness and basic first aid if a coworker is affected by the heat.
Heed these hot tips for keeping workers cool. To protect workers in hot environments, OSHA recommends that you take these essential actions:

- Consider a worker's physical fitness to work in a hot environment.
- Have employees work in pairs to reduce stress and so that they can keep an eye on each other's physical condition.
- Provide easy access to a supply of safe drinking water and encourage workers to drink plenty of water throughout their shift.
- Avoid scheduling the heaviest work on the hottest days or at the hottest time of the day.
- Alternate work and rest periods in very hot weather, making sure workers have a cool, shady place to take their breaks.
- Monitor temperatures and worker responses on a regular basis.
- Train workers to recognize and treat the signs of heat-related illness.

Stress the signs and treatment of heat-related illness. Include this basic information in your training on heat hazards and first aid:

- **Heat stress** is a common reaction to high temperatures, especially when accompanied by strenuous activity. Symptoms include thirst, fatigue, dizziness, and even difficulty seeing.

  **What to do:** Take a break in a cool place and drink cool water or juice.

- **Heat cramps** are painful muscle spasms in arms, legs, or intestines that are caused by losing salt while sweating.

  **What to do:** Cool down and drink water or juice. Also make sure the diet includes foods that will replace lost salt.

- **Heat exhaustion** can make a person feel weak and possibly dizzy and/or nauseous. Other symptoms include chills, clammy skin, and profuse sweating.

  **What to do:** Rest in a cool spot (preferably with feet slightly elevated) and drink plenty of fluids. If condition doesn’t soon improve, seek medical attention. Take it easy for a few days following an incident, especially if excessive heat continues to be a work factor, and reduce the pace of activity.

- **Heatstroke** is the most serious type of heat-related sickness and is, in fact, life threatening. Emergency medical attention is required. A victim of a heatstroke stops sweating, causing the body to overheat. Symptoms include hot and flushed skin, poor coordination, and confusion, possibly followed by loss of consciousness.

  **What to do:** While waiting for the EMTs to arrive, move the person to a cool place, sponge with cold water, apply ice packs or cold drink cans, or immerse in cold water. Offer drinking water only if the person is conscious.


**Labels**

29 CFR 1910.1200(f)

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**Why it matters ...**

- The Environmental Protection Agency (EPA) surveys have indicated that a large percentage of workers do not read labels for pesticides and other chemicals.
- There are more OSHA citations for violations of HazCom than any other general industry standard.
- To state the obvious—hazardous chemicals are hazardous, causing such tragedies as fires, explosions, and serious illness if not handled properly.

The labels provide workers with immediate visual reminders of hazards. The elements of a GHS-compliant label include:

- **Product Identifiers:** Chemical name, code, quantity, etc.
- **Supplier Information:** Manufacturer’s company name and contact information.
- **Pictograms:** Nine different black symbols with a diamond-shaped red border that depict the hazard classification of the given chemical.
- **Hazard Statements:** Various detailed phrases describing the hazards associated with a chemical, e.g., flammable gas, fatal if swallowed, causes eye irritation.
- **Precautionary Statements:** Four types of precautionary statements must be on each label: prevention, response, storage, and disposal.
- **Signal Word:** One of two signal words for alerting the level of hazard on each label:
  - DANGER—more severe hazards possible.
  - WARNING—less serious hazard.
- **Supplemental Information:** Any other instructional information that the chemical manufacturer would like to provide.

The nine pictograms used are designed for quick recognition and conform to what other GHS users across the world expect to see. Even though the GHS uses nine pictograms, OSHA enforces for eight, since the environmental hazard pictogram represents the kind of hazard that the EPA enforces.

These pictograms do not replace the diamond-shaped labels required by the U.S. Department of Transportation (DOT), which go on chemical drums, totes, tanks, and other containers for transport.

Training is needed to explain and reinforce the information presented in the SDSs and on the chemical container labels to ensure that your employees understand the chemical hazards in their workplace and are aware of the protective measures they need to follow. If you decide to use alternative workplace labels and the GHS-compliant label, you will need to train your employees on both. In other words, employees must not lose any protections they have under HazCom.
Ladder safety

Almost all ladder accidents are preventable
29 CFR 1910.25 Ladders, Wood/Fiberglass
29 CFR 1910.26 Ladders, Metal

Why it matters …

- Falls from ladders kill hundreds of workers every year.
- Many thousands more suffer serious, sometimes disabling, injuries that can keep them out of work for a long time.
- Some workers might even be permanently disabled and never able to return to their regular jobs.

You can easily prevent ladder accidents because most of them are caused by either risky behavior or faulty setup of ladders. Fortunately, both of these mistakes can be corrected with a simple training session.

Make sure employees understand the rules for safe ladder setup:

- Place the ladder on a firm, level surface, and check to make sure it's stable. Use wide boards under a ladder if the ground is soft.
- Never set up a ladder in front of a door unless the door is locked or someone is posted on the other side to keep people from opening it while you're up on the ladder.
- Never lean a ladder against a window or any other surface that isn't strong enough to support the weight of a person.
- Never lean a ladder against a surface that might move.
- Fully extend the spreaders on a stepladder and lock them in place before climbing.
- Secure locking devices on extension ladders before climbing.

Stress these special rules for setting up extension ladders:

- Secure the ladder top and bottom to make sure it doesn’t shift while you are on it. (This is one of the most common reasons for ladder accidents and injuries.)
- Have at least 3 feet of extension above the support point.
- Make sure that the upper section of an extension ladder overlaps and rests on the bottom section. The overlap should always be on the climbing side of the ladder. For ladders of 36 feet or more, the overlap should be least 3 feet.

Train employees to follow these safety rules when climbing and working on ladders:

- Check your shoes before you climb, and wipe off wet, muddy, or greasy soles.
- Allow only one person on a ladder at a time.
- Face the ladder when you go up or down, holding on to the side rails with both hands as you climb.
Don’t climb higher than the fourth rung from the top on a straight or extension ladder or the second step from the top on a stepladder.

Carry tools up on a belt or shoulder strap, or hoist them up once you’re in place atop the ladder. Then keep them in a hanger or holder while you work.

Keep one hand on the ladder while you work.

Move slowly and cautiously.

Keep your body centered on the ladder as you work. A good rule of thumb is to keep your belt buckle between the rails.

Don’t overreach—take the time to get down and move the ladder instead.

Never reposition a ladder while you’re on it.

Be extra careful when using a ladder outdoors in very windy conditions.

Never slide down a ladder.

Never climb a ladder if you are very tired, feeling ill, taking medication that affects alertness, or impaired by alcohol or drugs.

And don’t forget to remind your workers to always choose the right ladder for the job (right height and weight capacity) and inspect it carefully before use to make sure it’s in good, safe condition.

Lifting

Proper lifting techniques

Why it matters …

- Nearly 1,000 American workers injure their backs on the job every day.
- The majority of these injuries occur while an employee is lifting, carrying, or unloading materials.
- Once injured, backs are more susceptible to reinjury.
- Back injuries contribute significantly to lost workdays and lost productivity.

Safe lifting is as easy as one, two, three. The secret to safe lifting is to:

1. **Assume the safe lifting position.** Stand close to the object and keep a wide stance. Keep feet turned out and heels down. Then squat by bending at the hips and knees. Ears, shoulders, and hips should form a nearly straight, vertical line.

2. **Prepare to lift.** Pull the load close to the body (this reduces pressure on the back) and grasp the object firmly. Tighten stomach muscles.

3. **Let your legs do the lifting.** Maintain the natural curves of the spine and rise up from the squatting position using the legs to power the lift. Don’t bend over at the neck, shoulders, or waist while lifting.
When it's time to unload, face the chosen spot and lower the load slowly—again by using the legs, not the back. Simply bend the knees and lower the body with the load, keeping the back comfortably straight.

**All lifts are not created equal.** Teach your employees these techniques for special lifting situations.

- **Reaching overhead**—Use a step stool or ladder. Slide the load close to the body. Then let the legs and arms do all the work.
- **Oversized or heavy loads**—Use a two-person lift. Work as a team. Designate one person to direct the lift. Lift at the same time. Keep the load level when carrying and move smoothly together. Unload at the same time.
- **Long objects**—Carry lumber, pipe, and other long objects over the shoulder, being careful the ends don’t hit anyone or anything.
- **Bags and sacks**—Assume the safe lifting position. Grasp the load at opposite top and bottom corners. Power the body up with the legs and use the arms to raise the load to rest on the hip. Fully stand, and move the load to rest on the shoulder.

**Don’t forget to reinforce safe behavior and to correct unsafe behavior.** To paraphrase an old saying, you can teach employees how to lift safely, but you can’t make them lift safely—without regular reinforcement, that is. When you see an employee lifting safely, take a moment to provide some positive feedback. Say something like, “Good to see you practicing those safe lifting techniques we talked about. Keep up the good work!” And when you see an employee lifting incorrectly, be sure to stop and correct the unsafe behavior on the spot. Say something like, “I’m concerned you’re going to hurt your back if you keep lifting that way. If you bend your knees like this [you demonstrate] and lift with your legs, you’re going to save your back. Go ahead. Try it. I’m sure you’ll see the difference.”

**Machine safety**

*En ‘Guard’! Dueling with machine hazards*

29 CFR 1910.211-222

**Why it matters …**

- It’s been estimated that every year workers who operate and maintain machinery suffer approximately 18,000 amputations, and more than 800 die as a result of machine-related accidents.
- Failure of machine safeguards or employee ignorance of machine guarding requirements are contributing factors in many of these accidents.
- Workplace amputations are one of the most costly workers’ compensation claims.
- One-third of nonfatal machine-related amputations result in 31 days or more away from work, and some injured workers are permanently disabled and can never return to their regular jobs.
OSHA regulations require the use of machine guards to keep hands, feet, and other body parts away from machinery’s dangerous points of operation and power trains (29 CFR 1910.211-222). Here’s a brief rundown on machine safeguards to help ensure that your employees get the training they need to work safely with machines and prevent amputations and other horrible, disabling accidents.

**Machine guards ward off danger.** Guards provide physical barriers that prevent access to hazardous areas. They must be secure and strong, and workers should not be able to bypass, remove, or tamper with them. Guards should not obstruct the operator’s view or prevent employees from working. There are basically four kinds of guards:

- **Fixed**: Includes fences, gates, and protective covers for blades, presses, and all moving parts.
- **Interlocking**: Disengages the machine’s power source when opened or removed.
- **Adjustable**: Provides a barrier that can be adjusted to many different operations.
- **Self-adjusting**: These barriers move according to the size or position of the workpiece.

**Leave safety to your devices.** In addition to machine guards, there are also safety devices that keep employees away from danger areas during machine operation. Safety devices must allow safe lubrication and maintenance and not create hazards or interfere with normal machine operation. In addition, they have to be secure, tamper-resistant, and durable. Machine safety devices include:

- **Presence-sensing devices**, which cause a machine to stop working when a body part enters a certain danger field
- **Safety trip controls**, which stop a machine automatically if a worker falls against a pressure-sensitive bar
- **Restraints**, which use cables attached to a worker’s hands and to a fixed point behind the worker to prevent hands from coming too close to the machinery’s moving parts
- **Pullback devices**, which pull the operator’s hands away during the dangerous part of the operation (for example, when a slide or ram is descending)

**Training in the danger zone.** Safety training sessions should emphasize the need to:

- Recognize machine hazards and the potential for serious injuries such as amputations.
- Understand the need for machine safeguards and how they protect employees.
- Check to see that guards are in place at all required points before turning on a machine.
- Realize that removing, bypassing, or tampering with machine guards exposes employees to serious injuries, including amputations.
- Report any problems with the operation of machine guards to the supervisor right away.
- Refrain from using a machine without required safeguarding or when safeguarding is not operating properly.
Feed and operate machines correctly using hand tools when appropriate to keep hands away from the danger zone during cycling.

Clear jams or make running adjustments safely.

Clean and maintain machinery properly, replacing guards and making sure they are in place before using machine.

Follow lockout/tagout procedures when machine guards must be removed for maintenance or repairs.

And finally, remind them of the AUTO rule:

If you can reach—
Around
Under
Through
Over an existing machine guard ... STOP! You are in danger—the guard is not effective!

Safety data sheets (SDSs)

Not your grandfather’s SDS

29 CFR 1910.1200(g)

Safety data sheets (SDSs) are a critical component of OSHA’s HazCom. In fact, OSHA calls SDSs “a one-stop shopping resource for everything you might need or want to know about a chemical.”

Your employees might be interested to know that rudimentary forms of data sheets have been available since the 19th century and some trace their history much further back to hieroglyphics found inside the Egyptian pyramids regarding the effects of various chemicals. Originally referred to as material safety data sheets (MSDSs), there was no standard format for the MSDSs, so they came in multiple formats for decades. In 2012, OSHA adopted the GHS. The GHS is an internationally agreed-upon system, created by the United Nations. It is designed to replace the
various classification and labeling standards used in different countries by using consistent criteria for classification and labeling on a global level.

The GHS updates to HazCom also created a standardized 16-section format SDS. That format consists of a specific order and set of headlines.

Paper (M)SDSs appeared in the 1940s and 1950s, with the first regulatory requirements adopted by the former Bureau of Labor Standards for the maritime industry before OSHA was created. Not surprisingly, in the 21st century, the emphasis has shifted to electronic SDS systems.

**Electronic access has many advantages**, and many companies now recognize the benefits of electronic SDS systems, such as fax-back, CD, customized database, or the Internet.

**Case in point**: A printing company in Maryland recently purchased a fax-on-demand service for retrieving SDSs. The phones on the shop floor were all labeled with the 800 number for contacting the service. All employees had to do was call the number and obtain the current SDS on any chemical they needed. The company had the service a short time when an employee got a rash from a solvent that had spilled on his hand. His co-workers called the SDS service and took the employee to a hospital a few miles away. By the time they got there, the most up-to-date version of the chemical’s SDS had been faxed and forwarded to the hospital, and the fax service was on the phone with the hospital staff providing them with information about the chemical and its treatment. Thanks to the quick transmittal of information and treatment, the employee returned to work that day.

**But does OSHA approve?** The OSHA regulation says, “Electronic access, microfiche, and other alternatives to maintaining paper copies of [SDSs] are permitted as long as no barriers to immediate employee access in each workplace are created by such options.”

For example, in the case of a fax-back service, OSHA would consider a failure to provide immediate employee access to a fax machine or failure to train employees how to contact the service a barrier to access and subject to a citation. The key issue for OSHA is access, not the type of SDS system you use:

- All employees must be able to access SDSs at all times, meaning the SDS access management system must always be functional; and
- All employees who need access to SDSs must be trained to use the system effectively to quickly find a specific SDS.

**Make sure employees have unimpeded access.** If you rely on one of the electronic SDS systems, avoid OSHA violations by making sure to provide a backup system. If a fax-back service is your primary system, another electronic system may serve as a backup as long as it is not subject to the same barriers as the primary system. If a power outage will render the fax machine and computer inoperable in an emergency, make sure other arrangements to contact the chemical manufacturer, distributor, or other SDS provider by cell phone or other means have been made to obtain the SDS. Otherwise, an on-site paper filing system may be necessary as a backup. Either way, document the procedure. Also, periodically test your primary and backup systems. Run through an emergency access scenario with your access provider and your employees. Record the results and put them with your written Hazard Communication Plan.
Process safety management

Highly hazardous chemicals and the PSM Standard
29 CFR 1910.119

Why it matters …

- In 1984, when 40 metric tons of toxic methyl isocyanate were released from a Union Carbide pesticide plant in Bhopal, India, 3,000 people died; 100,000 were injured; and 50,000 were left partially or totally disabled.
- In more than 20 years since, there have been nearly 200 serious incidents involving highly hazardous chemicals in the United States, according to the Chemical Safety Board.
- On average, six of these incidents per year have resulted in injuries, and there has been an average of five fatalities annually.
- Nearly 50 of these incidents affected the public.

The goal is to prevent a catastrophic release. The management of highly hazardous chemicals is regulated by OSHA in 29 CFR 1910.119, the Process Safety Management (PSM) Standard. The Standard is intended to prevent or minimize the consequences of a catastrophic release of toxic, reactive, flammable, or explosive, highly hazardous chemicals from a process. A “process” is defined by OSHA as “any activity or combination of activities including any use, storage, manufacturing, handling, or the on-site movement of highly hazardous chemicals.” A process includes “any group of vessels that are interconnected and separate vessels that are located so that a highly hazardous chemical could be involved in a potential release.”

Which chemicals are highly hazardous? The Standard applies to any process that contains a threshold quantity or greater amount of a large number of toxic or reactive hazardous chemicals, which are specified in Appendix A of the Standard. This list gives the chemical name, Chemical Abstract Service (CAS) number, and threshold quantity (TQ) in pounds for each substance. The Standard also applies to 10,000 pounds or greater amounts of flammable liquids and gases and to the process activity of manufacturing explosives and pyrotechnics.

Process safety management—the basics. OSHA recognizes that each company and process is different. Therefore, the Standard is performance oriented. However, all companies are required to follow certain basic steps. For example, the Standard requires you to compile detailed information about the chemicals, technology, and equipment used in regulated processes and conduct a process hazard analysis for each regulated process. Process hazard analyses must be updated and revalidated at least every 5 years. In addition, you must develop a written plan for involving employees (both your own and contractor employees) in the management of regulated processes and provide clear written instructions for safely conducting activities involving regulated processes. You also have to inspect and test process equipment regularly, conduct full compliance audits at least every 3 years, develop a written emergency action plan, and investigate within 48 hours any incidents that result or could reasonably have resulted in catastrophic releases of highly hazardous chemicals.
Employees need to be well trained. Training for employees operating a process regulated by the Standard must include:

- Overview of the process
- Operating procedures
- Specific safety and health hazards
- Emergency operations
- Safe work practices

Refresher training is required at least every 3 years (and more often if necessary) to ensure that employees understand and follow the current operating procedures of the process. Whenever there are changes in the process, employees must be trained in those changes before start-up of the new or modified process. Employees responsible for maintaining process equipment must be trained in the process and its hazards. Although OSHA generally holds contractors responsible for training their own employees, you are responsible for taking your contractors’ safety performance and programs into account when selecting a contractor. And you are responsible for informing your contractors about worksite hazards as well as workplace safety rules and emergency procedures.

Scaffold safety

Do’s and don’ts
29 CFR 1910.28-29

<table>
<thead>
<tr>
<th>Why it matters …</th>
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<tr>
<td>♦ It is estimated that more than 2 million construction workers frequently work on scaffolds.</td>
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<tr>
<td>♦ OSHA estimates that protecting these workers from scaffold-related accidents would prevent 4,500 injuries and 50 deaths every year.</td>
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<td>♦ Improved safety performance can also translate into $90 million saved in lost workdays.</td>
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A lot of workers get hurt—and some get killed—every year in scaffold accidents. But the good news is, almost all scaffold accidents can be prevented by proper training.

Have you identified the hazards? Scaffold safety training should begin with identification of the hazards. Common hazards include:

- Falls from an elevation because of lack of fall protection
- Collapse of the scaffold because of instability or overloading
- Being struck by falling tools, work materials, or debris
- Electrocution, principally resulting from proximity of the scaffold to overhead power lines
Is your training in line with OSHA requirements? OSHA says that each employee who works on a scaffold must be trained by a “qualified” person (i.e., someone who is knowledgeable about scaffold safety) to recognize hazards associated with the type of scaffold being used and to understand the procedures necessary to control or minimize those hazards. Training should include:

- Nature of any electrical hazards, fall hazards, and falling object hazards in the work area
- Correct procedures for dealing with hazards and for using personal fall arrest systems and falling object protection systems
- Proper use of scaffolds, and the proper handling of materials on scaffolds
- Maximum intended load and the load-carrying capacities of scaffolds used

In addition to these topics, employees who are involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting scaffolds must be trained in:

- Correct procedures for erecting, disassembling, moving, etc., the type of scaffold in question
- Design criteria, maximum intended load-carrying capacity, and intended use of the scaffold

And under OSHA regulations, retraining is required whenever:

- Changes at the worksite create hazards about which employees have not been previously trained.
- Changes in the types of scaffolds, fall protection, falling object protection, or other equipment create new hazards.
- Inadequacies in employee performance indicate that workers have not retained the essential safety information they were taught initially.

Do they or don’t they? To make sure employees are safe when working on scaffolds, teach them these life-saving tips:

**DO**

- Make sure a competent person has inspected the scaffold before you go up.
- Wear a hard hat whether you work on or under a scaffold.
- Wear sturdy shoes with nonslip soles as well.
- Use a personal fall arrest system whenever required.
- Watch out for coworkers on the scaffold as well as people below.
- Always use common sense when working on any scaffold, and move around slowly and carefully.
- Ask a supervisor if you’re not sure if a scaffold or working conditions are safe.

**DON’T**

- Take chances.
- Overload a scaffold.
- Keep debris or unnecessary materials on a scaffold where someone could trip over them or accidentally knock them off the platform.
- Hit a scaffold with anything heavy—a truck, a forklift, a load of lumber, etc.
- Leave materials and equipment on the platform at the end of the day.
- Use an outdoor scaffold in stormy or windy weather, or if it’s covered with ice or snow.
Shiftwork safety

Training a 24-hour workforce

Why it matters …

- For training to be effective, you have to schedule sessions at times when shiftworkers are available, alert, and receptive.
- Without an established shiftworker training strategy, it's all too easy for essential safety training to fall through the cracks.
- Because so much safety training is mandated by OSHA, you could face compliance problems if shiftworkers fail to get required training.

If you keep the lights burning 24/7 to provide round-the-clock service or pump up production, you know that providing adequate safety training for your shiftworkers is a challenge. The key to success in scheduling training for shiftworkers is accessibility.

Pull them off the line or pay them overtime? If you can afford to pull people off the line or shut down an operation in order to train, that's probably the best option—and the one shiftworkers will be happiest with. But if you can't do this, another option is bringing workers in before their shift or keeping them after and paying them overtime for training. The problem here, aside from the expense, is that it's often inconvenient for employees. And that means you might not find them at their most receptive, which can result in failure to learn what they need to know.

One solution to this problem is to break long training sessions into bite-sized bits, or modules. This way, you might be able to free up trainees during their shift for short periods. Even if you can't, this approach limits employee time commitment and minimizes interference with personal after-hours plans, which will likely enhance their commitment and attention.

Bring them in on their day off or staff up an extra crew? Of course, with 12-hour shifts, adding even an extra hour for training is difficult at best, and often just plain impossible. If you train after the shift, workers will just sleep through the session and be exhausted on their drive home. If you do it before, they lose prime sleep time. Some companies solve the problem by bringing employees in for training on their days off and paying them for their time. If you do this, be sure to schedule training sessions in the afternoon so that you don’t cut into shiftworkers' sleep time. Also be sure to provide trainees with the training schedule far enough ahead so that you don’t run into scheduling conflicts with employees' personal plans.

Another solution is to add a fifth crew to the normal four-crew schedule. That way the extra team is available on a rotating basis for training, relief coverage, and special assignments. Of course, although this may be an ideal option, it's a costly one. Many companies, however, find that the expense can be justified by the pressing need for training and team building to support today's high-performance work systems.

Let them schedule their own training? Why not? With today's tech-powered training options such as online training and self-directed CD, DVD, and PowerPoint® training programs, letting shiftworkers schedule their own training time may provide...
a simple, efficient, and cost-effective solution. Although this approach may not be suitable for all types of training or all training content, it can be an answer to tough scheduling problems when other options aren’t practical or available. Shiftworkers can set aside small blocks of time, either during their shift, if possible, or before or after, to get through a module or two of training material. They can even take training materials home if they want. The upside is that by being able to choose their own training time, shiftworkers may be more receptive and learn more. The downside is that you have to set up some kind of monitoring system to make sure they actually complete required training within an established period of time.

**Slips, trips, and falls**

**Don’t fall behind in your training**

29 CFR 1910.25 Ladders, Wood/Fiberglass

29 CFR 1910.26 Ladders, Metal

<table>
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<tr>
<th>Why it matters …</th>
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<tr>
<td>◆ In one recent year, the Bureau of Labor Statistics (BLS) reported 777 fatal falls in private industry and 255,600 non-fatal falls.</td>
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<td>◆ Slips, trips, and falls are estimated to account for at least 15 percent of all job-related deaths.</td>
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<td>◆ The average direct cost for a single disabling injury hovers near $30,000, with indirect costs significantly higher, according to research conducted at the University of Florida.</td>
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<td>◆ Although construction workers accounted for a little more than half of all workplace falls, that still leaves a large number of fall-related accidents that occur in everyday workplace situations.</td>
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**Take aim at slip and trip hazards.** Slips and trips are major causes of workplace falls and injuries. And one of the biggest contributing factors to slips, trips, and resulting falls is improper housekeeping. Lighting can also be a factor, especially when employees move from light to dark, or dark to light areas of the workplace. Slips, trips, and falls can also occur when workers are carrying large objects that obscure their vision. Other causes include:

◆ Not watching where you’re going
◆ Spills and wet floors
◆ Clutter on stairs or walkways
◆ Uneven, defective flooring, worn stairs, or worn spots in carpets
◆ Wearing sunglasses in low-light areas
◆ Failure to use handrails
◆ Failure to use common sense

Train employees about slip, trip, and fall hazards and periodically refresh that training. In addition:
◆ Require all personnel to wear proper footwear.
◆ Instruct employees to clean up spills immediately.
◆ Create a simple reporting procedure for slip, trip, and fall hazards employees can’t eliminate on their own—and correct problems right away.
◆ Investigate all incidents involving slips, trips, and falls to avoid future occurrences.

**Focus on eliminating falls from ladders.** The National Institute of Occupational Safety and Health (NIOSH) classifies ladder accidents in one of three broad categories:

1. Accidents in which the wrong ladder is used,
2. Accidents in which a ladder fails because it is in poor condition, and
3. Accidents in which the ladder is used improperly.

Of 1,400 ladder accidents in a BLS study, it was found that:

◆ Fifty-seven percent of fall victims were holding objects with one or both hands while climbing or descending the ladder.
◆ Thirty percent had wet, greasy, or oily shoes.
◆ Fifty-three percent of straight ladders had not been secured or braced at the bottom, and 61 percent had not been secured at the top.
◆ Sixty-six percent of the fall victims had never been trained in how to inspect ladders for defects before using them.
◆ Seventy-three percent had not been provided written instructions on the safe use of ladders.

Fortunately, your employees don’t have to become statistics like the workers involved in these accidents. You can protect them with a good understanding of the OSHA regulations (1910.25 for wood/fiberglass ladders and 1910.26 for metal), the right kind of training, and four simple safety rules:

1. Choose the right ladder for the job—the right height and the right material.
2. Inspect ladders before each use.
3. Set up ladders correctly, and climb and descend carefully.
4. Store ladders properly so that they are not damaged and cannot fall on anyone.

**Make sure employees know when fall arrest equipment is required**—and how to use it correctly. OSHA’s fall protection standard identifies situations in which fall protection is required as those in which employees work 6 feet or more above the ground on:

◆ Walking ramps and runways
◆ Unprotected leading edges of floors, roofs, floor formworks, and other surfaces not actively and continuously under construction
◆ Faces of formwork or reinforcing steel
◆ Hoist areas
◆ Areas above holes, including skylights
◆ Edges of excavations
◆ Roofs of various pitches
◆ Precast concrete structural members that are being put up
Areas where overhand bricklaying and related work are performed
- Residential construction
- Wall openings
- Areas above equipment, such as machinery, electrical equipment, degreasing units, or anything that could create a hazard if an employee fell in or on it

Although the fall protection standard was designed for the construction industry, many of its guidelines are useful in other industries for employers who have employees who may sometimes work in high places.

Substance abuse in the workplace

How to spot it among your employees

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<th>Why it matters …</th>
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<tr>
<td>- One in five American workers report that they have been put in danger or injured as a result of a fellow employee's substance abuse.</td>
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<td>- Over 70 percent of substance abusers are employed.</td>
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<tr>
<td>- Up to 40 percent of industrial fatalities and 47 percent of industrial injuries can be linked to substance abuse, and substance abusers are more than three times as likely to have an accident on the job.</td>
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<tr>
<td>- Alcohol and drug abuse has been estimated to cost American businesses billions of dollars every year in lost productivity, healthcare costs, and workers’ compensation claims.</td>
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Do you have substance abusers among your employees? According to the U.S. Department of Labor (DOL), you probably do. DOL reports that the chances your organization employs one or more of the millions of American workers who abuse drugs or alcohol is greater today than ever. DOL also says that their studies reveal that substance abuse has a tremendously negative impact in the workplace. Substance abusers are more likely to:
- Be absent and/or show up late.
- Make mistakes.
- Take risks.
- Be involved in workplace accidents.
- File workers’ compensation claims.

Getting a handle on this dangerous and costly problem begins with recognizing the symptoms and identifying possible abusers.

How can you tell if an employee is abusing drugs or alcohol? DOL says that the following performance and behavior problems are common to many employed individuals who abuse alcohol and/or other drugs:
Performance problems include:

- Inconsistent work quality
- Poor concentration
- Reduced productivity
- Increased absenteeism and lateness
- Unexplained disappearances from the jobsite
- Carelessness, mistakes
- Errors in judgment
- Risk-taking
- Disregard for safety
- Extended lunch periods and early departures

Behavior problems include:

- Frequent financial problems
- Avoidance of friends and colleagues
- Overreacting to criticism
- Blaming others for own problems and shortcomings
- Complaints about problems at home
- Deterioration in personal appearance
- Complaints and excuses of vaguely defined illnesses

Please note, however, that an employee who displays any of these symptoms doesn’t necessarily have a substance abuse problem. There could be other reasons, such as health or emotional problems, or family problems.

What else should you look for? In addition to looking at an employee’s performance and behavior, you should also look at what’s going on around that employee. For example, when there’s a substance abuse problem, there might also be an increase in:

- Complaints from other workers (about mistakes, the employee not doing his/her share of the work, coming in late and leaving early, or risk-taking behavior)
- Near misses and accidents either involving the worker or taking place around the worker
- Disputes with or aggressive behavior toward other workers and supervisors
- Theft from the company and co-workers

Over time you may also notice deterioration in morale among employees who work with or around substance abusers.
Weather emergencies

Training workers for these events

Why it matters …

- Tornadoes, floods, hurricanes, and other weather emergencies can strike with incredible force and sometimes very little warning.
- Proper training and preparation saves lives and minimizes destruction of property.
- The better prepared your employees are for a weather emergency, the sooner your organization can be back up and running after the weather clears.

If a devastating weather emergency such as a Hurricane Katrina, a killer tornado, or a deadly blizzard were to strike in your area, would your employees be prepared to cope with such a difficult, stressful, and dangerous situation?

Do they know the plan? If you’ve not done so recently, be sure to review your organization’s emergency plan with all your employees. Explain how you will notify employees about plant closings and provide other critical information before, during, and after an emergency. Give trainees the opportunity to ask questions about anything that is unclear about the plan or any emergency procedures they don’t understand. Remind them that it is the time to ask questions and resolve uncertainties. There won’t be time to find out when a real emergency strikes. Also be sure all trainees understand their emergency duties. Carefully explain any unfamiliar duties they will be expected to assume in a crisis.

Are they prepared for the worst? Be sure to cover the worst-case scenario, not to scare trainees, but to prepare them for the potential devastation. They need to be ready to deal with crisis-related difficulties such as:

- Power outages
- Downed phone lines resulting in the loss of land-based communication
- Lack of safe drinking water
- Impassable roads
- Gasoline shortages
- Food shortages
- Gas main breaks and resulting fires
- Sewer line breaks creating the risk of disease
- Structural damage to the facility
- Damage to or destruction of homes and personal property

Do they know when to go and when to stay? You also need to review evacuation and other emergency action procedures. In some weather emergencies, there may be very little advance warning, and minutes will count. Employees need to know how to act swiftly, calmly, and purposefully. Make sure your trainees know:
Emergency evacuation routes from their work areas and other parts of the facility

Evacuation duties, including shutting down equipment, securing the facility, assisting in the evacuation of coworkers, etc.

Where to evacuate during a weather emergency

Procedures for sheltering in place if conditions outside the facility make evacuation impossible

**Have they stocked up on emergency supplies?** Whether trainees are at work or at home when a weather emergency strikes your area, they need to have necessary emergency supplies on hand to see them through the crisis. Critical emergency supplies include:

- Emergency food and water
- Adequate supplies of medicines and first-aid materials
- Hygienic supplies; soap, clean clothes and towels, disinfectants, etc.
- Cell phones and rechargers
- Flashlights with extra batteries
- Portable battery-operated radios
- Blankets

**Welding safety**

**Refresher**

29 CFR 1910.251-255 (Subpart Q)

**Why it matters …**

- Welding is a hazardous activity that poses a unique combination of both safety and health risks to more than 500,000 workers in a wide variety of industries.
- Because it is a common operation in many workplaces, its hazards are often underappreciated.
- OSHA reports that more than four deaths per thousand workers are attributed to welding accidents.

**OSHA requires special training for welders.** OSHA says that employees involved in welding operations must receive detailed training in the safe operation of their equipment and the safe use of the process.

- Welders must be suitably trained in the safe operation of equipment and the selection of appropriate PPE. Only trained and qualified personnel are allowed to use welding equipment.
- Firewatchers must be trained in the use of fire extinguishing equipment and know how to sound the alarm in the event of a fire.
- Workers who handle oxygen and fuel-gas supply equipment must be trained to recognize the hazards and take necessary safety precautions to prevent fires and explosions.
The specific requirements for different types of welding operations and training are contained in 29 CFR 1910.251–255 (Subpart Q).

**Remind welders of the “Three Fs.”** The three main hazards of welding operations are:

- **Fire (from flame, sparks, and slag).** Welders should always remove combustible materials from the operation area and clean all flammable substances from the work surface. Wooden floors should be covered if possible. Fire screens should be used to keep sparks contained. A firewatcher with an extinguisher should always be on hand.

- **Fumes (from heated metal).** To protect workers from fumes, the area should be well ventilated. Care should be taken to make sure fire screens and barriers do not block ventilation. Outdoor welding operations should be set up so that the welder works upwind of fumes. An approved respirator should be used if required (e.g., when fumes are toxic). And welders should be reminded to stop working and get to fresh air if they start to feel ill.

- **Face injuries.** PPE to protect the face and eyes against hazards, such as sparks, slag, heat, light, and electricity, includes impact and heat-resistant goggles, face shields, and helmets. The specific type of required face and eye protection (including lens shade) depends on the type of welding operation.

**And don’t forget to discuss other hazards.** Depending on the type of welding equipment used by trainees, you’ll need to discuss other hazards, such as:

- **Electric shock.** Arc welders must inspect equipment to make sure it is in good condition and properly grounded. They should avoid working in wet areas and wearing metal items, such as belt buckles, wedding rings, and watch bands. They also need to wear insulated gloves.

- **Explosions.** Gas welders should always check the SDS for the gas they are using, handle compressed gas cylinders carefully, and be sure to turn off the gas when equipment is not in use.
Section 2: Train the trainer tips

Adult learners

What types of learners are your employees and why does it matter?

Why it matters …

◆ You invest a lot of resources in employee training, and if they don’t learn, all the money, time, and effort go down the drain.
◆ If employees don’t learn what they need to know to protect themselves from job hazards, they are more likely to have accidents.
◆ Making sure safety training appeals to the needs of adult learners, to individual learning styles, and to different personality types is the best way to ensure employees learn the skills and information they need to keep safe and healthy on the job.

Effective safety training complements three basic learning styles. Just as employees have different working styles, they learn in different ways, too.

◆ Visual learners learn best by seeing. This type of employee generally learns best when it involves the written word. They like to read key points, handouts, computer-assisted training programs, and other written materials. They like to watch safety training films, see demonstrations, and look at charts, graphs, and diagrams. And they probably take notes to remind themselves later about what they saw.

◆ Auditory learners like to listen. They generally learn best through lectures, group discussions, and self-directed training with an audio feature, such as a click and train PowerPoint presentation.

◆ Hands-on learners learn best through practical instruction. They learn by doing. For these folks, any kind of theory always needs to be backed up by a healthy dose of practice. On-the-job training is usually the most important part of the learning process for these employees.

Of course, most training groups include all three kinds of learners. For safety training to reach all employees, it’s best to use a mixture of training techniques to appeal to different learning styles. That way there’s always something in there for everybody, and all trainees will be able to learn what they need to work safely.
Individual learners vary in other ways, too. You should keep in mind that in addition to different learning styles, your employees are different in other ways as well. For example:

- Some trainees have confident personalities and thrive on challenges. Others are unsure of themselves and may feel threatened if training is too challenging or if they don’t get enough support.
- Some are talkers and love to participate in discussions. Others prefer to sit in the back and listen, only contributing if called on.
- Some are goal-oriented and readily relate to training goals. They probably set their own learning goals as well. Others, however, may need help setting and achieving learning goals.
- Some trainees are independent and like to learn by themselves. Give them a click and train PowerPoint session, computer-based training unit, or an instruction manual and they are happy to learn on their own. All you have to do is follow up with an evaluation to make sure they’ve got it all right. Others may lack the discipline or motivation to learn by themselves and need the interaction and support of a group to learn effectively.

And don’t forget that most adults are self-directed learners. They tend to learn what they want, when they want, and how they want. They also tend to approach learning in a task-oriented or problem-solving way, just as they approach everything else in their lives. What’s more:

- They want to know why they’re being asked to learn something. In other words, training needs to be practical and immediately relevant to their work. They want to know how it will make them safer, more efficient, or more successful on the job.
- They want to be able to draw on past experience (which many trainees have in abundance) and integrate new information and skills into what they already know and can already do.
- They want positive reinforcement and feedback from trainers to let them know how they’re doing and to keep them motivated.
- They want to be successful. So it’s up to you to make sure that they don’t fail and that they come away understanding and are able to use everything they need to learn from training.
Audio conferences

A new option for supervisory training

Why it matters …

◆ Audio conferences are a quick, easy, timely, and cost-effective way for managers to learn about important safety issues.
◆ Participants learn what they need to know from experts without having to leave the workplace for training.
◆ Large groups of managers or supervisors can be trained in-house, at the same time, and in a variety of fields that are critical to the safe operation of your facility.

Do you have trouble finding the time to get up to speed with current training topics? Need expert advice about critical safety issues? Don’t want to spend time away from the office at conferences or distant specialized training sessions?

Try a safety audio conference. An audio conference is remarkably cost-effective and convenient. You participate from your facility using a regular telephone. You have no travel costs and no out-of-office time. Plus, for one price you can get as many other trainers or managers in your group to participate as you can fit around a speakerphone.

Here’s how it works. Audio conferences are generally 90-minute live training sessions about a particular topic. There are usually two or more speakers—experts in their field—who discuss the topic with a conference host. Participants dial in via a special phone number and listen in over their own telephones or around a speakerphone.

Along with the audio portion of the presentation, you may also receive a handout that supports the live discussion. The handout outlines the training points so you can follow along as the conference progresses. Handouts also provide a takeaway, which serves as a permanent reminder of the key points learned in the training session. After the speakers have thoroughly discussed the issues (about an hour), the conference usually wraps up with a question-and-answer period for the remaining 30 minutes or so. You can either e-mail questions or phone them in. CDs of the session are also available if you miss the live session or want to keep a permanent recording.

Audio conferences offer many benefits. Aside from being cost-effective and convenient, audio conferences are also a timely way to bring yourself up to speed on hot-button issues that have a big impact on the safe operation of your business. You get the opportunity to learn from nationally recognized experts in the field. In addition, the electronic hookup makes it possible to poll the audience to find out about their specific needs and concerns so that the speakers can address these directly during the conference.
Behavior change

The key to training success

Why it matters …

◆ Safety experts say that the overwhelming majority of workplace accidents are the result of unsafe behavior rather than unsafe conditions.
◆ Changing unsafe behavior depends on changing how employees think about safety—they have to understand why as well as how.
◆ Behavior change is an ongoing process that requires long-term commitment and daily follow-up.

You’ve just completed an important safety training program. Trainees go back to their jobs and promptly forget most of what they just learned. What have you accomplished? Without actual behavior change at the job level, the time and money you spend on training is wasted.

To get the most from your training dollars, always start with the basics. Behavior change really begins before employees ever set foot in a training session. You have to lay the groundwork for effective safety training by:

◆ Ensuring management commitment—Unless employees know management is 100 percent behind your safety training programs, it’ll be hard to convince them that they ought to be committed to changing their behavior.
◆ Getting employees involved in training needs assessment—Ask your workers what safety training they think they need and include their suggestions in your training plans.
◆ Zeroing in on the behaviors that cause most accidents—if you can identify behaviors that cause accidents and focus training efforts on changing those behaviors, you can prevent most workplace accidents.
◆ Setting a good example—Walk the walk as well as talk the talk. Never doubt that your employees are watching their leaders and patterning their behavior in part on what they see. Make sure managers and supervisors always follow safety rules and exhibit safe behavior.

Make training interesting and engaging. To change safety behavior, you also have to change the minds of employees who don’t think safety is that important or who think it’s somebody else’s responsibility. To change their minds, your training has to engage them. It has to attract and maintain their attention. It has to stimulate thought and action. To accomplish these goals, your safety training should:

◆ Combine a variety of training techniques, including discussion, interactive activities, audiovisuals, and evaluations.
◆ Be relevant to the hazards trainees face on the job.
◆ Give them a lot of good reasons for changing their behavior.
◆ Provide the information they need to keep safe in a way they can understand and remember.
◆ Offer useful, simple solutions to common safety problems.
◆ Give them a chance to practice new skills and procedures, and ask questions about new information.

**Follow up with lots of coaching.** Safety training that stops at the classroom door isn’t likely to achieve desired results. The skills and knowledge learned in training sessions have to get out into the workplace. In other words, you have to bridge the gap between theory and practice—and it’s a big gap sometimes with some employees. To transfer learning to the job, you have to integrate training content into employees’ daily activities and monitor it to make sure trainees are actually applying what they learned. Success here requires lots of coaching, lots of positive feedback, and lots of interaction between supervisors and employees.

**Customization**

**Do I need to customize outside training materials?**

### Why it matters …

◆ To capture and retain the attention of trainees, safety training has to be meaningful and teach specific, practical information that employees can actually use.
◆ For training to be transferred effectively from the classroom or computer to the job, it must relate to an employee’s experience in real-life work situations.
◆ OSHA regulations target specific hazards, operations, materials, procedures, etc., which means your safety training must focus on the specifics of your workplace as well.

**Outside safety training materials offer many advantages.** They provide:

◆ Well-organized lesson plans prepared by professionals who understand adult learning and are experts in the particular field of knowledge covered by the training
◆ Cost-effective training for any number of employees with the purchase of a single training program
◆ Relief for overworked supervisors who don’t have to carry the added burden of creating training materials themselves
◆ Consistent and accurate safety training throughout the organization

**But there’s one thing they can’t do.** They can’t tell your employees about the unique safety information specific to your workplace—essential information that employees need to know in order to protect themselves on the job and comply with OSHA regulations.

**Customizing greatly increases value.** Customizing training materials allows you to focus on safety issues specific to your organization and certain groups of trainees. For example, through customizing an off-the-shelf training program, you can highlight:

◆ Specific hazards in your workplace
◆ Your safety policies and procedures
- Detailed procedures for safe operation of equipment and processes in your facility
- Proper handling of materials and substances used and stored in the workplace
- PPE employees are required to use and the circumstances in which they must wear it
- Required written plans and programs, such as your emergency plan and hazard communication program
- Special events recognized in your organization, such as designated safety weeks and months, and special initiatives, such as safety and health awareness campaigns
- References to job aids and manuals where employees can find additional information about safety rules and procedures
- Updates on regulatory or company rule changes, new safety information, etc.

**Customizing doesn’t have to be hard or time-consuming to be effective.** For example, you can easily insert company-specific information into standard training materials through:
- Handouts
- Samples of materials, equipment, PPE, etc., used in your facility
- Pictures from around your facility illustrating specific safety issues
- Group discussions
- Demonstrations
- Hands-on practice
- Problem solving
- Reviews of workplace accidents and near misses
- Guest speakers (company personnel or outside experts)

### Diversity

**How to adapt training for a diverse audience**

#### Why it matters …

- The American workforce is more diverse than ever before and becoming more so every year.
- During the past 10 years, 51 percent of new entrants into the United States workforce have been minorities.
- Over the next 10 years, there will be a dramatic increase in minority workers, particularly ethnic minorities, some of whom may lack proficiency in spoken and/or written English and familiarity with common workplace safety precautions.

**The times they’ve been a changin’.** The United States has long been thought of as the world’s “melting pot,” a place where diverse cultures blend into a uniquely American way of life. But that’s been changing. The melting pot is fast becoming a
smorgasbord of distinct cultures. Instead of shedding their backgrounds, new immigrant groups are retaining their ethnicity, language, and traditions. We’ve become a multicultural society. And that’s had a significant impact in the workplace.

**Workplace diversity can have a profound effect on job safety.** Some of the workers now entering the workforce come from countries where workplace safety is not a high priority. They may be used to performing dangerous, risky work without PPE and the other protections that we take for granted. They may never have experienced any kind of safety training before. And they may come from cultures where a worker does not bother a boss except for extremely serious reasons. In Asian cultures, for example, employees are shown how to do their tasks and are expected to perform them with few questions asked.

**Case in point.** A Thai worker, who spoke little English and read none, was employed at a hospital as a maintenance worker. Using a combination of pantomime and color-coding, his supervisor trained him to operate a carpet-cleaning machine. When the worker appeared to be adequately trained, he was assigned to the “graveyard” shift. He was on duty soon after a major snowstorm hit the area. The tracked-in snow and slush took a big toll on the hospital’s many carpeted areas. The Thai employee was eager to do a good job, but unfortunately, he had apparently failed to understand key points from his training. Instead of using warm water as he’d been trained, he used hot water in the cleaning machine, believing that would work better on the unusually dirty carpets. He also added three times the recommended amount of chemical cleaner. Of course, the hotter the water and the more chemical, the more fumes were produced. As a result, an entire wing of the hospital had to be evacuated.

**Adapt safety training strategies for a diverse workforce.** Here are some helpful training strategies that can help you adapt effectively to the needs of an increasingly diverse workforce—especially where language barriers are an issue:

- Speak slowly, explain fully, and repeat important points several times.
- Choose the simplest words and avoid technical jargon (or explain it in simple terms).
- Use a translator with groups of employees who have only minimal English skills.
- Stress the importance of following safety regulations and policies.
- Show employees how to use safety protections, such as PPE, and explain why they are important.
- Demonstrate while you speak and use pictures, diagrams, props, etc., to supplement your words.
- Have employees practice skills in training so that you can see if they’ve understood.
- Check to make sure that workers are able to understand written materials; don’t assume that they can read forms, signs, written directions, etc.
- Provide handouts in the language(s) trainees speak and read.
- Team up non-English-speaking employees with English-speaking employees.
- Follow up on the job to make sure employees properly apply what they’ve learned in training.
Feedback

How (and why) to get it

Why it matters …

- You spend a lot of time and money on safety training, so if it isn’t meeting objectives, you’re wasting valuable resources.
- The best way to find out if training is working is to get input from trainees, supervisors, and trainers.
- Feedback ensures that the information and skills taught during training sessions and required for regulatory compliance are getting back to the worksite and being used by employees on the job.
- Feedback also helps you improve the quality and effectiveness of your training programs.

Training’s done, so your job’s done, too, right? Wrong! A successful training program isn’t complete without an evaluation of training effectiveness. It’s important to know whether trainees learned what they needed to learn in training to work safely on the job. And you won’t know that unless you ask them. Don’t forget to ask trainers and supervisors (who might or might not be the same person) for their feedback as well. Without feedback from all angles about the effectiveness of your training programs, you could be wasting a lot of time and money.

What kind of information do you need? Feedback about safety training helps you assess future training needs and develop effective plans for meeting those needs. That means the input you get about your training programs needs to answer questions such as:

- Was training delivered as planned, on time, and to the appropriate employees?
- Which training methods worked well with which topic and trainees, and which methods failed to achieve desired objectives?
- Can you identify any specific problems that interfered with the overall effectiveness of a training session?
- How effective were trainers at engaging trainees and conveying information?
- How did training affect employee performance?
- Did it satisfy regulatory requirements?
- Were all stated goals achieved? If not, why?

How can you get the answers? One way to get the answers you need is to evaluate your training programs from four perspectives.

1. Ask for input. You need feedback from trainees on both content and presentation. This is easily accomplished by using uniform feedback forms to be completed by trainees immediately following the session. Feedback forms usually ask questions about the program, such as:

- Were the objectives of the session clearly stated?
- Do you think the training achieved its objectives?
How would you rate the content of the program?
How helpful do you think the training will be in performing your job safely and effectively?
How can we improve this training program?

Feedback forms should also ask about trainer effectiveness. For example: Was the trainer well prepared? Did the trainer’s presentation hold your interest? Was the presentation clear? Did the trainer answer all your questions?

You also want to talk to trainers and trainees’ supervisors following a session to get their thoughts about its effectiveness and to hear any suggestions they have for improving the program next time around.

2. **Measure learning.** In order to know what trainees learned during a session, you need to use some kind of measurement tool such as a quiz or practical test that will tell you objectively whether trainees really learned the information and/or skills taught during the session.

3. **Monitor on-the-job behavior.** You need to observe trainees when they go back to work to find out if they’re actually using what they learned in training. Observations should continue for several months after a training session just to make sure employees have made a permanent improvement in performance based on training.

4. **Look at the bottom line.** Finally, you need to evaluate the success of safety training in terms of a variety of concerns that affect operating costs, such as reduction in accidents, lost workdays, turnover, and grievances, and improvement in quality, production, and morale.

**Follow-up training**

**The crucial link between learning and job success**

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<th>Why it matters …</th>
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<td>♦ If employees don’t transfer the skills and knowledge from training to their jobs, you’re wasting precious training time and dollars.</td>
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<td>♦ Follow-up helps sort out any application problems so that you can avoid costly mistakes on the job.</td>
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<td>♦ It ensures that yours is a learning and growing organization, which is essential for dealing effectively and swiftly with change in a competitive global economy.</td>
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All too often trainers heave a sigh of relief when the training session is over and trainees depart to go back to work. But the end of the training session doesn’t signal the end of a trainer’s job. In fact, this is when a crucial stage in the training process is just beginning. If you don’t follow up to make sure trainees apply what they’ve learned when they go back to their jobs, you could be wasting all the time and money you just spent on training.
Takeout isn’t just for fast food. Don’t let trainees leave a session without a concrete reminder of training points. Make sure they go out the door with a takeaway—a checklist, step-by-step instructions, some key points to remember, or something similar that they can take back to the job and refer to as needed. Handouts like these are especially helpful for new procedures or new steps in existing procedures.

Sure you’ve trained them, but did they learn anything? A few weeks after a training session, send trainees a note or e-mail, or give them a call. Ask questions like these about how they are applying what they learned in training:

- How is what you learned affecting your work?
- Are you having any problems or concerns in transferring what you learned in the training session to your job?
- Do you have any additional comments or suggestions about the training experience?

Emphasize that your door is always open so that employees know they can talk to you at any point in the future about any issues that come up as they continue to transfer training to the job.

Everybody needs somebody to lean on. Sometimes you need to take an extra step in following up. This is especially true when training content is particularly difficult or complicated, such as when it involves the application of new technology. In those cases, an effective follow-up might include assigning trainees to small support groups that meet regularly for a while after training. Support groups give members a sense of unity and security, as well as a source of assistance they can rely on when they run into problems. These groups can be informal and run by a coach—for example, a supervisor or a knowledgeable and experienced employee. Trainees can use the time to discuss common problems or concerns. They can talk about how they’re doing in applying new skills. And they can give one another advice and encouragement, all of which helps to build that vital bridge between training and the job.

Motivation

How to add motivation and inspiration to your training

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<td>♦ Safety training is one of your best opportunities to protect employees and prevent job-related injuries and illness.</td>
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<td>♦ If trainees are bored, restless, inattentive, and uninterested in training sessions, they’re not going to leave with the information they need to be safe on the job.</td>
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<td>♦ The effort you spend on creating and delivering motivational safety training that inspires trainees to be alert to hazards and work more safely will be repaid many times over with improved safety performance and fewer workplace accidents.</td>
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Start with a bang. Get trainees involved right away. Take a few minutes at the beginning of the session to grab their attention and create a little excitement. For example, you could:

- Quickly divide the group into two teams and have a competition to see which team can answer the most questions about the topic in a few minutes.
- Tell a real story related to the topic about an employee who was injured because he or she failed to recognize hazards or failed to take precautions. Or go with a positive spin and tell a story about an employee who avoided an accident because he or she took the precautions you’re going to talk about in the session.
- Tell them what’s in it for them if they pay attention during the session. Will they learn a new safety-related skill? A better way to protect themselves from a nasty hazardous substance that can burn their skin? A simple technique for avoiding painful back injuries?
- Encourage participation by having employees take center stage and describe something they already know about the topic, or give them the opportunity to ask a question about the topic they’d like answered during the training session.

Focus their attention. You talking and trainees just listening is probably the least effective way to train. Experts tell us that in most cases hearing accounts for only 10 percent of learning, whereas more than 80 percent comes via the sense of sight. There’s also this revealing breakdown on what trainees remember from a training session:

- 10 percent of what they read
- 20 percent of what they hear
- 30 percent of what they see
- 50 percent of what they see and hear
- 70 percent of what they say—preferably in their own words
- 90 percent of what they say as they do

This means safety training activities should be heavily weighted in favor of hands-on practical experience, interactive discussion with the trainees doing most of the talking, question and answer, and activities that have a visual impact (e.g., images to “find the hazards,” video presentations, and PowerPoint presentations). And just to keep things fun and lively—and provide a little relief from all the serious stuff—throw in a little humor every once in a while. Tell a joke or do something comical to get a laugh. Then rapidly move on to the next training point while you’ve got their attention.

Make it real. Reality TV is really popular, so why not try some “reality” training? Have a speaker come in to give a short presentation about the topic. For example, you could have an employee who was injured on the job talk about his or her experience and what he or she learned from the accident as it relates to your topic. Or you could invite a community firefighter to come in to talk briefly about fire safety. Another way to make it real is with a demonstration. For example, for training on a new piece of equipment, you can demonstrate its operation step by step, pointing out safety features as you go along. Then, give trainees the opportunity to step up and operate the equipment themselves while you observe and advise.
Send them away fired up. Although safety training sessions may seem like the end of a long road for you—a process of preparation, presentation, and evaluation—remember that for trainees, it’s only the beginning. The rest happens on the job. If they don’t apply what they learned in the session to their work, you’ve wasted a lot of time, effort, and money. So send them back to the job fired up about safety and eager to use what they’ve just learned. Have a good wrap-up session prepared for the end of training. Make sure trainees leave with a sense of accomplishment to reinforce that they’ve learned something really important. Also be sure they don’t go away empty-handed. Give trainees a handout or booklet to serve as safety reminders and job aids. And be sure to tell them that your door’s always open any time they have questions, problems, or suggestions related to the training session.

Multiple locations

Organizing your training across multiple locations

Why it matters …

- You need to be sure that all trainees in all locations receive standard, up-to-date safety information.
- The cost and inconvenience of bringing employees to a central location for training or sending trainers out to far-flung locations often make these impractical alternatives.
- By developing strategies that allow central planning and preparation of training materials, but local scheduling and execution, you can get the best return on your safety training investment.

If your company has training groups spread all over the place, this tip’s for you.

Assemble training packs. Create training packs to send to each training location. Supervisors at each location can use the materials to train their employees. That way you’ll be sure all employees everywhere are getting the same accurate, complete, company-approved safety information, without having to bring workers together in a central location for training or to send trainers out to employees. Among the training materials you could include in a pack are:

- Training guides for supervisors
- Booklets and other handouts for employees
- Video/DVD
- PowerPoint presentations
- CD training programs
- Posters
- Policy statements
- OSHA regulations

Training packs are an inexpensive, convenient way to provide training at multiple locations and at the same time be certain that the same important safety message is reaching all your employees, no matter where they may be located.
Set up Web-based training. If your organization has a website, you can disseminate training materials online, and let supervisors and employees access programs directly at their own locations. Or you can put training modules on the company intranet or a section of an online training vendor’s website that is set up for your company. Or you can purchase and disseminate off-the-shelf online training materials from a vendor. You can even create live webcasts and broadcast safety meetings and training sessions from a central location to all your locations. The advantage to Web-based training is that these courses provide a hands-on, interactive way for employees to work through training programs on their own or in a group. Training materials are standardized and can be easily updated so that your safety training is always current. Another benefit of this approach is that Web-based training programs can be linked with software (a learning management system, or LMS) that makes it possible to track trainees’ progress, which makes recordkeeping easy for the training administrator back at headquarters.

Consider using audio or videoconferencing. These methods allow a trainer or expert in one location to interact with trainees in multiple locations. This is a great way to bring in outside safety and health experts to train your employees. Conferencing might also be just the right approach to update employees at all locations about regulatory or procedural changes, or to talk about the effect of new company policies. Questions and answers can be handled by e-mail, and participants can be polled to help the trainer focus on safety issues of particular concern to trainees. Audio and videoconferencing can be cost-effective and convenient ways to disseminate important safety information quickly and interactively.

Planning

How (and why) to plan your safety training

Why it matters …

♦ Safety training is too important to leave to chance—failure to provide training when it’s needed could result in an accident or an OSHA violation.
♦ Without a plan, safety training becomes hit or miss (and more often miss than hit!).
♦ A lot of the time, money, and other resources you pour into safety training could be wasted if you don’t plan efficiently to ensure successful training results.

Identify the three Ts. More successful, less stressful safety training begins with a good plan. And a good plan begins with three elements:

♦ Training needs—What topics do you need to cover? Start with OSHA-required training and move on to areas in which you’ve had recent accidents or near misses. These topics deserve top priority. Other topics might be suggested by supervisors, safety committees, and employees.

♦ Training goals—What do you hope to achieve by training? Set realistic, measurable goals that are achievable—for example, 100 percent compliance with PPE rules, greater awareness of chemical hazards, or significant reduction in equipment-related incidents.
Trainee selection—Which workers need this training to do their jobs safely? For example, if you’re introducing new equipment or a new process, everyone connected with the equipment or process needs training, with supervisors and operators at the top of the list.

Set up a training schedule. Without a reasonable, realistic schedule, training might not get done. Busy supervisors often place training behind the day-to-day tasks that demand most of their time.

Here’s how to ensure that training actually takes place:

- Make a master schedule of all the training you want to conduct for the next 6 months to a year.
- Within your master schedule, set specific dates for each training session. Or if you’re using online training or some other form of self-directed training such as audio PowerPoint sessions, employees can complete on their own, set specific dates by which training must be completed.
- Include makeup dates for trainees who cannot attend scheduled group sessions.
- Use a logical progression for multipart training. Make sure sessions aren’t too far apart that trainees forget the first training or too close together that trainees suffer information overload.

Choose the best approach. The best training method depends on the subject, your training goals, your budget and resources, and who you’re training. But these are some general guidelines to keep in mind:

- Use a variety of methods to ensure that you reach all types of learners. Include visuals, demonstrations, practice, and discussion in training sessions.
- List the methods, materials, equipment, and trainers you’ll need for each training program in your plan.
- Keep your master plan flexible so that you can switch methods rather than postpone training if you run into technical or other problems.

Posttraining testing

Is it really necessary?

Why it matters …

- Successful safety and health training prevents accidents and helps ensure compliance with OSHA requirements.
- Tests measure the safety competence of employees as well as the effectiveness of your safety training program.
- Tests provide documentation that required training has taken place and that employees have achieved required training objectives.
- Tests indicate when additional training is necessary.
Testing benefits everybody. Tests help you assess the effectiveness of your safety and health training, which benefits both you and your trainees. Tests help you:

- Measure comprehension and retention.
- Gauge competence of each trainee.
- Document compliance with training requirements.
- Indicate where more training is needed.
- Identify weaknesses in your training program.

A posttraining test provides employees with:

- Clear expectations about what they are supposed to get out of the training session
- Objective assessment of whether they have actually achieved training objectives
- Indication of gaps in understanding or skill levels that they need to address through questions or a request for additional instruction

There’s no “best” test. Typically, true/false tests and other quizzes are used to measure understanding immediately following the training. These kinds of tests are easy to administer and correct and quickly reveal how well employees have learned concepts, skills, and other information. Points missed on the test can be later reviewed to clear up misunderstandings and ensure that critical information has been understood. But paper-and-pencil tests are not the only possibility. Oral exams, group discussions, case studies, quiz games, job simulations, or any other activity that directly reflects the training objectives can be equally effective—or sometimes more effective. It just depends on the training content and the group of trainees you’re working with.

Tests tell whether training objectives have been met. Test items should be based on the training objectives that were defined at the outset of the training session. For example, say one of the objectives for SDS training is: “Given an SDS, workers will be able to identify with 100 percent accuracy the location of the safe-handling precautions.” This objective should be turned into a test question: “Identify the safe-handling information on this SDS.” When test results show that training objectives have not been met, additional training is required until all training objectives are achieved.

Tests also show where training needs improvement. A good test reveals more than employee competence, however. It can also identify weak spots in your safety and health training and show you exactly where your program needs to be improved. If tests show that training objectives are consistently not being met, your training content or methods need to be revised and improved until employees are able to meet objectives. Remember, if employees do poorly on a test following training, it’s not so much the employees’ failure as the trainer’s or the program’s failure. When test results show that competence has not been achieved, the best approach is to talk with trainees. Sometimes you’ll be surprised by the feedback you get. Concepts that are basic to you, for example, might have been confusing to the trainees. Or perhaps training methods weren’t interactive enough, and employees became bored and failed to pay attention.
PowerPoint sessions

Best practices

Why it matters …

- Some people are more text oriented and some are more visually oriented, so you are able to get your message across to all types of learners with slides that include both text and graphics.
- A message that is easy to read and understand is always more effective than one that is complicated and difficult.
- Being a PowerPoint “pro” makes both you and your important safety message more credible.

“First, do no harm.” That familiar admonition, often used in the medical context, should be made to apply to PowerPoint presentations as well. Many PowerPoint users—even those with lots of presentation experience—undermine their presentations by consistently making common mistakes. These include:

- Too much text—squeezing so many words onto a slide that they can’t be read
- Too many bells and whistles—using every available type of background, typeface, animation, and graphic in a single presentation, causing viewers to become confused and distracted
- Poor use of graphics—graphics are good, unless they serve no obvious purpose, don’t support the main message on the slide, or are too complicated to be understood
- “Patchworking”—welding together slides from several different presentations without making the appearance and style consistent

“Market” your PowerPoint presentation like a professional. The American Marketing Association (AMA) passes along a number of suggestions for improving your PowerPoint presentations:

- Choose pictures carefully—They should be compelling, professional-looking, and add to the message.
- Keep text short—AMA suggests no more than five bullets per page and five words per bullet; others suggest a seven-line maximum, but whatever it is, keep it short. The reason for this is that you shouldn’t be reading your slides word for word but using them as support for your own oral presentation.
- Simplify each slide—The message in the text should be short and simple, and graphs and charts must be easy to read and understand.
- Be careful with colors—Different colors “say” different things (for instance, blue is soothing, red is not), so they should be compatible with your message.

Words should be readable—AMA suggests at least a 28-point typeface for headlines, 24-point for body text, and use a “sans serif” font that’s easier to read.

Do your handouts complement or duplicate your presentation? Many presenters reproduce full-sized or miniaturized versions of their PowerPoints for distribution as handouts. That’s not necessarily a bad thing, especially if there is room to
make notes. However, the ideal handouts go beyond simply duplicating the information you’ve already provided in your presentation—they should provide more information, in greater depth. If you have been faithful about minimizing the amount of text on your slides, use the details you left off the slides and put them on your handouts instead.

**Refresher training**

**How to make the same topics new and interesting**

<table>
<thead>
<tr>
<th>Why it matters …</th>
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<tr>
<td>✦ Once you lose a trainee’s attention it’s hard to get it back.</td>
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<tr>
<td>✦ Bored trainees don’t learn or remember what they need to know.</td>
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<tr>
<td>✦ Employees who don’t apply what they learn in training on the job are at risk.</td>
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**Been there, done that?** Periodic refresher training is required by many OSHA standards. And even when it isn’t, it’s essential for keeping safety skills sharp and preventing a dangerous sense of complacency. But once you’ve said it all, how do you say it all again, year after year? And if employees come in to repeat training sessions with the attitude that they’ve heard it all before, how are you going to keep them from tuning out?

**Assess how much trainees already know.** One good way to begin a repeat training session is with a pretest to find exactly how much trainees remember from previous training sessions. That way you can quickly review the stuff they already know and concentrate on new information and material that got by them last time. But instead of the same old paper and pencil test, why not turn it into a competition? That always gets everybody involved and paying attention. Divide the group into two teams and ask a bunch of questions about the training topic. While trainees are having fun playing the game, you can be zeroing in on knowledge deficiencies that need to be addressed during the session.

**Focus on new developments.** To make refresher training new, interesting, and relevant, emphasize what’s changed since the last training session. Are there any new policies, work rules, or regulations that need to be discussed? Have new hazards been introduced into your facility? Have new work procedures been instituted, or has new equipment been installed? Have new systems or processes been developed and deployed? Have there been any accidents related to the subject of your training?

Don’t use the same old training techniques every time. If you gave a lecture last time, try a video this time, or use a computer-based product, such as a PowerPoint presentation, to liven up the session. Bring some drama to your repeat training with recent real-life accident or near-miss stories. Or do a demonstration. For example, demonstrate the effectiveness of a steel-toed shoe by dropping a weight on it. Seeing is believing, and it enhances retention. Here are some other ideas to help make old training fresh and new:
- Have trainees pair off and do an activity, such as a joint lift of a heavy object.
- Bring in slides of different work areas, equipment, and operations related to your topic, and ask trainees to identify any hazards they see as the slides click by. Called “safety scanning,” this technique encourages and trains employees to continuously look out for hazards in their work areas.
- Send trainees out into work areas on a scavenger hunt to look for and record as many hazards as they can find.
- Bring in props that trainees can see and touch, such as a damaged tool that is unsafe, a hazardous chemical container that is missing a label, samples of PPE for inspection, or a piece of equipment for a demonstration.
- Invite a guest speaker—someone from outside the company with expertise in a particular area of safety like a firefighter or a rep from your PPE supplier.
- Lead a discussion about safety problems, encouraging trainees to describe any problems they’ve had recently. Brainstorm with the group for solutions.

## Repetition in safety training

### Once is never enough

<table>
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<th>Why it matters …</th>
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<tr>
<td>- Employees who don’t learn the safe way to work in training are accidents waiting to happen.</td>
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<tr>
<td>- Employees learn at different rates and in different ways, which means you need to repeat each safety message several times in different ways to make sure you get through to everybody.</td>
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<tr>
<td>- When safety involves the application of a skill, technique, or procedure, repeated practice is essential for most employees.</td>
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<tr>
<td>- Without reinforcement training, most of what employees learn in training will be lost in a very short period of time.</td>
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Repetition is essential to all kinds of learning, including workplace safety training. There’s an old maxim in journalism: “Tell them what you’re going to tell them, tell them, and then tell them what you told them.” That works pretty well for safety training, too. You need to explain the important stuff several times in different ways to make sure it sinks in. So during training sessions, be sure to repeat training objectives, important concepts and information, and key safety terms several times. Look at it this way: At any given moment during a training session, some trainees probably aren’t going to be paying full attention. That means if you only say something important once, those workers aren’t going to hear it. And if they don’t hear it, they’re not going to do it when they get back on the job. You also have to figure that not everyone is going to catch on to all the training points the first time around. Some people might need to hear, see, or experience things a couple of times—or more—before they understand.

Practice makes perfect. Repetition is also important when it comes to practical application of safety information. Whether employees learn new procedures,
techniques, or other safety-related skills on the job or in a training session, they need the opportunity to practice what they’ve learned a few times until it’s locked into their heads and their performance is flawless. So when there’s a practical aspect to safety training, be sure to give a demonstration. Repeat the demonstration for complicated procedures a few times until everybody catches on. Then let them practice while you coach and provide feedback on performance. Some employees are going to have to do it several times before they get it right. Some will pick it up right away. The quick ones can help you coach the ones who need more practice.

Be prepared to do some “reinforcement” training as well. Along with repetition during safety training, you may also need to use repetition of training to make sure employees don’t forget what they’re supposed to have learned. According to training industry leader Bob Pike, trainees can remember 90 percent of what they’ve learned an hour after training, 50 percent after a day, 25 percent after 2 days, and only 10 percent after 30 days. That’s why Pike maintains that additional reinforcement training needs to be done. Subject matter needs to be revisited six times before it’s truly learned, says Pike. That means plenty of follow-up and refresher training—especially for the more complicated safety information. Other training experts say that reinforcement training should be spaced to allow employees to practice new procedures and skills or use new information on the job supported by coaching before they come back to the classroom for review and additional training.

Self-paced training

What is it and how does it work?

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<th>Why it matters …</th>
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<tr>
<td>✦ Improves productivity</td>
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<tr>
<td>✦ Increases employee retention</td>
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<tr>
<td>✦ Enhances job satisfaction and prepares workers for promotion</td>
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<tr>
<td>✦ Assists in compliance with government regulations</td>
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<tr>
<td>✦ Improves safety performance</td>
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<tr>
<td>✦ Ensures successful integration of new technology</td>
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<tr>
<td>✦ Improves your products and services to give you the competitive edge</td>
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What is it? Self-paced training is individualized training in which the trainee controls the pace at which learning takes place. Slow learners can move slowly and carefully to ensure comprehension and allay learning anxieties. The quick ones can get right to it instead of having to sit, bored and frustrated, in a group setting while others catch up. Self-paced training provides you with the capability to train employees anytime, anywhere, and at a pace that corresponds with their skills, knowledge, experience, and aptitude. Self-paced training materials are also usually presented in short modules that can be completed in one sitting. And self-paced training is often an ideal way to go for refresher training or to provide a job aid, because employees can go back to it anytime they want or need to, to brush up on skills or review information.
**Give me some examples.** You can choose from several self-paced training formats. For example:

- Computer-based training, which includes interactive CD programs, self-paced audio PowerPoint presentations, and other similar network drive or disc-based programs that feature quizzes and other evaluations to test learning.
- Online training, which includes a wide variety of interactive training programs delivered via the Internet and can include such options as webcasts and web-seminars that may also allow for interaction between trainers and trainees. Online training can also be linked to learning management systems to simplify tracking progress and keep training records.
- Print materials, such as manuals, workbooks, and documentation that require trainees to read a body of job-related information and then complete exercises on their own, which can later be checked by their supervisor or another trainer.
- Video, DVD, or audio programs that present information in a more stimulating, engaging way and usually feature handouts to supplement the presentation and quizzes to evaluate learning.

**Does it work?** On the whole, yes, self-paced training works very well. Advocates tout many benefits, declaring that self-paced training is:

- Convenient—It provides on-demand training 24/7, at any location.
- Cost-effective—You save on the cost of trainers and training materials as well as the cost of pulling trainees off the line for training sessions or bringing trainees in from remote locations to train.
- Effective—It enhances trainee attention and comprehension because everybody gets to learn at his or her own pace.
- Consistent—All trainees get the same information, in the same way.
- Specific—Because self-paced training is generally modular, employees can focus on the information that applies to their particular job. They can also move quickly through what they already know and focus on what they don’t know.
- Timely—Workers can learn skills when they need them and when they are ready to apply them, making it less likely that they’ll forget important training points.
- Simple to evaluate—Most programs provide evaluations to help you measure results.
- Easy to coordinate with other training—It can be used to enhance or follow up on other kinds of training, such as classroom training, demonstrations, and on-the-job training.

**OK, what’s the downside?** Like all forms of training, self-paced learning can have some limitations. For example:

- Some employees may lack the self-discipline or motivation to train on their own.
- Others may be unfamiliar with this form of training and be uncomfortable with responsibility for managing their own learning.
◆ Procrastinators and employees with poor time management skills may take forever to complete modules and need constant prodding.

◆ Employees with poor reading or English-language skills may have difficulty getting through the materials or may not comprehend important information, but they may be afraid to ask questions about the things they don’t understand.

◆ Supervisors may be unfamiliar with the self-paced training and therefore fail to effectively facilitate or evaluate the process.

**Trainer training**

**Don’t forget to train your trainers**

**Why it matters …**

◆ Not everybody is born with the qualities and skills of a good trainer—but anybody can learn to be a good trainer.

◆ Effective trainers ensure that employees learn the skills and are provided with the safety information they need to avoid accidents.

◆ Well-trained trainers help your organization comply with safety and health regulations and protect employees from workplace hazards.

**Some people seem to be born with the qualities to be good trainers.** They’re:

◆ Good communicators

◆ Knowledgeable

◆ Experienced

◆ Good with people

◆ Interested in learning

◆ Patient

◆ Open-minded

◆ Creative

◆ Well-prepared

◆ Flexible

◆ Well-organized

**But most trainers weren’t born with all the necessary qualities and skills.** They had to learn them. And your trainers will probably have to learn them, too, in informative, skill-building sessions. Train-the-trainer training should start with understanding how adults learn—because, after all, that’s who your trainers are going to be training.

**Adults don’t like being treated like kids.** They don’t want to sit there being lectured to like they were in high school. They want to:

◆ Know why they are learning (specifically how it benefits them and how it will be useful)
- Link new skills and information to what they already know and can do
- Be actively involved in the learning process through participation, discussion, problem solving, etc.
- Have the opportunity to use multiple senses (the visual being the most important)
- See a direct relationship between what they are learning and their job
- Have a chance to practice what they have learned right there during the training session

Effective trainers need to be trained to include these essentials in their training programs in order to capture and hold the attention of their adult learners.

**Different people learn in different ways.** Some people are more visual and learn best by seeing something done—for example, a demonstration of a technique, diagrams of a process, or a list of steps in a procedure. Other people are more auditory and learn by listening and talking about what they are learning. Still others have a manual learning style.

They learn best when they have the opportunity to get their hands on something and actually see how it works. To learn, they need to be able to handle the equipment, run the operation, or practice the skill. Furthermore, some people prefer group training sessions, while others like self-paced training modules that they can work on individually and review as often as they need to. Effective trainers try to accommodate all these different styles and preferences when they design training programs. And they make sure to include elements of different styles in group training sessions to meet the needs of all trainees. Some trainers may do this naturally. But most probably need to learn about learning styles and how to accommodate them.

**Taking the act on the road.** All trainers—even the naturals—have to learn how to prepare and deliver effective training sessions. They need to know how to:
- Assess training needs effectively to deliver the right training to the right employees at the right time.
- Create appropriate training outlines complete with attention-grabbing openings and closings that summarize all the key points.
- Write measurable, observable, results-oriented training objectives.
- Determine the most efficient training method for the topic (discussion, demonstration, computer-based, etc.).
- Design engaging training activities, exercises, worksheets, and handouts.
- Select appropriate training materials (CDs, DVDs and videos, self-paced PowerPoint sessions, etc.)
- Present training content effectively (accomplished speaking skills, enthusiasm and confidence, good time management, etc.).
- Manage groups successfully, encouraging interaction, participation, and feedback while discouraging cross talk, distractions, etc.
- Evaluate results and follow-up to make sure training has been successfully transferred to the job.
Web-based training

How to get started

Why it matters …

- Many companies have reported that using Web-based training (WBT) has resulted in lower training costs, sometimes by millions of dollars for large organizations.
- Surveys of trainees who used WBT show higher satisfaction with training and better retention of material.
- The human brain needs to “rest” every 5 minutes or so when taking in information. WBT accommodates this need by allowing self-paced learning.

Why should you consider WBT? WBT is a form of computer-based training that provides instruction over an Internet or intranet site. WBT enthusiasts like it because it allows employees to learn at their own pace, fit training more flexibly into their work schedules, and go back and review material until they understand it. It can also allow for real-time interaction with an instructor or other learners via chat rooms or discussion boards. Safety training with WBT may fit well into your organization if:
- A relatively large number of employees requires the same kind of training on an ongoing basis.
- Employees to be trained are spread out geographically and cannot conveniently attend classroom training sessions.
- Your organization either has sufficient Information Technology (IT) resources to help create and maintain WBT programs in-house or has the budget to pay for an outside firm to set up and maintain them.

Go “low tech” to achieve “high tech.” So your organization seems ready to plunge into WBT … now what? The good news is, you don’t have to be an IT genius (or even understand how websites work) to be a website developer. In fact, some WBT experts advocate a low-tech approach to program development—literally figuring it out with a pencil and sheets of paper. You can “storyboard” the training program you want to create by drawing boxes to represent Web pages and sketching in the main ideas for each, showing the overall flow with lines and arrows. While this approach might require a lot of effort, working out the program yourself means you can stay in control of the overall training message—and it will also help guide the IT specialists who can translate your ideas into Web-based reality.

Know your goals ... and your limitations. WBT can be a great training tool, but only if it’s focused on the needs and capabilities of the audience. Experts advise that you keep these tips in mind if you’re developing a WBT program:
- Define your training goals and make sure the end result of your program achieves them.
- Keep each page of information simple; use pages as “building blocks” that support the overall concept you want to convey.
◆ By all means use graphics and animation but don’t overdo it to the point of distraction.

◆ Having several miniquizzes interspersed throughout the program is generally better than having one long quiz at the end.

◆ Take into account the physical limitations of your users’ computers—if they are several years old, downloading complex pages may take too long and be frustrating and annoying to users.
January—National Eye Care Month

Tips for eye protection training

Why it matters …

- Thousands of eye injuries occur in American workplaces every day, and some of them result in permanent vision loss.
- The majority of injuries are caused by particles or objects striking the eye; chemical burns are also common.
- Government safety experts say that proper eye protection can prevent more than 90 percent of workplace eye injuries.

It doesn’t have to be National Eye Care Month to make eye safety a priority at your facility. However, when you do turn the spotlight on workplace eye safety, be prepared for what you may see or hear. For example, you might see employees working without any eye protection at all or using the wrong kind. Or you might catch them with safety glasses perched on top of their heads instead of over their eyes. You might hear excuses like, “This’ll just take a minute,” or “I was in a hurry and I guess I forgot my safety glasses in my locker.” If this is what you find, it’s a pretty good indication that there’s a future eye injury out there waiting to happen. To prevent that, you’ll want to take three critical steps this month.

1. Get them to wear eye protection. OSHA regulations tell you when eye protection is required, but they don’t tell you one of the most important (and least obvious) parts: How do you get employees to use the eye protection you provide? It isn’t easy. It takes a combination of persuasion, positive reinforcement, close supervision, and maybe a little discipline. Here are some other training tips that can help:

   - Explain the need. Identify each eye hazard employees face on the job and explain specifically how a particular type of safety eyewear protects them against this hazard.
   - Point out that OSHA requires it. Make sure your employees understand that the requirement is mandated by law. The company could be cited and fined if employees don’t use eye protection required by OSHA regulations.
   - Dramatize the consequences of failing to use required eye protection. Tell some horror stories or miracle stories about how employees’ eyes have been injured because they weren’t wearing eye protection or their eyesight was saved because they were. Show them a piece of damaged eye protection that saved a worker from an injury, if you can. Or show them a video that dramatizes the importance of wearing eye protection. Gore is good here. It shocks employees and shakes them out of complacency.
◆ Help employees recognize that eye protection gives them more control over their own safety. People like to feel that they’re in control of their own destiny. The simple act of donning appropriate PPE in the face of particular hazards gives them that extra measure of control.

◆ Lead by example. Always use required eye protection yourself in the work area and require visitors to use it, too—even if you’re just passing through an “Eye Protection Required” work area. The example you set for your employees is always a powerful motivator.

2. Make sure they use the right kind. For example:

◆ Safety glasses to protect against impact.

◆ Safety glasses with side shields to protect against flying particles.

◆ Ventilated goggles to protect against chemical vapors and dust.

◆ Goggles with a face shield to protect against chemical splashes, molten metals, or sparks.

◆ Welding goggles with special lenses to filter out harmful light radiation.

◆ Wearing the wrong kind of eye protection can be almost as bad as not wearing any eye protection. So make sure your workers are always equipped with the right kind for the hazards they face on the job.

3. Check for a good fit and good condition. Eye protection needs to fit right or it can’t do the job it is intended to do. Loosely fitting goggles, for example, could let in harmful chemical vapors that could burn the eyes. Gaps between the face and the side shields on safety glasses could allow a tiny particle to hit the eye. And eye protection that’s damaged or worn out can’t do the job either. Scratched or pitted lenses make seeing hard and could lead to an accident. Stretched straps or bent frames mean the eyewear won’t fit right and could expose the eyes to hazards.
January—New Year’s Resolution

Keeping safety a top priority

Why it matters …

◆ The BLS reports that there were more than 4 million non-fatal occupational injuries and illnesses reported in one recent year.
◆ Almost 1.3 million of those cases involved days away from work.
◆ Also in one recent year, 5,702 employees died because of work-related injuries and illnesses.

As the new year approaches, it’s a good time to reflect on the success of your safety program during the past year. Was safety a top priority for everyone in your organization? Did you manage to meet objectives, or do you perhaps need to undertake some new initiatives this year?

Hunt down and eliminate hazards. One initiative that you might consider is to turn the spotlight on workplace hazards. For example:

◆ Take a second look at the layout and condition of work areas.
◆ Examine tools and equipment to make sure they are safe for employees to use (and review maintenance schedules to make sure they stay that way).
◆ Observe the way employees work (you might be surprised at how many unsafe behaviors you observe).
◆ Check to make sure that appropriate PPE (in good condition) is readily available to all workers.
◆ Identify potential fire, chemical, electrical, and other hazards throughout your facility and take action to eliminate these risks.

Emphasize training. Employee training is probably the most important aspect of any successful safety program.

◆ Check OSHA standards for training requirements (many regulations have very specific requirements).
◆ Make sure training sessions are interactive and provide plenty of opportunities for questions and discussion.
◆ Take advantage of available technology to enhance and expand training options.
◆ Provide lots of demonstrations and hands-on experience during training sessions.
◆ Don’t forget to provide training for supervisors and managers, too (especially when new regulations, policies, equipment, processes, etc., are introduced).

Encourage employee participation. If employees at all levels in the organization are actively involved in promoting workplace safety, your safety initiatives for the year are much more likely to achieve objectives and improve overall safety.

What are your New Year’s resolutions for workplace safety?
Encourage employees to make suggestions about how to improve workplace safety (and then be sure to give their suggestions serious consideration!).

Involves employees in problem-solving when challenging safety and health issues arise.

Rely on safety committees composed of employees from all levels and functions to identify hazards, investigate accidents, and promote safe work habits among your workforce.

**Recognize and reward safe behavior.** Finally, don’t forget to show your gratitude for the efforts employees, supervisors, and managers are making to create a safer workplace. Use recognition and reward programs to reinforce safe behavior and positive safety attitudes. Talk up safety at every opportunity. Let employees know that their safety is your top priority this year, and ask them to join you in making it their top priority as well.

**March—National Poison Prevention Week**

**Pointers for workplace poison prevention**

**Why it matters …**

- On average, poison centers handle one poison exposure every 14 seconds.
- Most poisonings involve everyday household items such as cleaning supplies, medicines, cosmetics, and personal care items.
- Over 60 percent of all poison fatalities occur in adults the ages of 20 to 49.
- Ninety-two percent of exposures involve only one poisonous substance.

Are your workers playing Russian roulette with poisons? Have you ever used a product containing chemicals without reading the health hazard information on the label or in the SDS? According to the American Association of Poison Control Centers, millions of Americans are exposed to potentially poisonous substances at work and at home. Over 500,000 of those people end up in the hospital emergency room every year, usually as a result of their own or a family member’s carelessness. Some of the injured could be your employees (or members of their family) if they aren’t aware of the risks and the precautions required to prevent poisoning. And what better time to conduct poison prevention training than National Poison Prevention Week during the third week in March?

**Focus on these training points for workplace poison prevention.** Toxic chemicals are used as ingredients in many industrial products, and most workplaces contain at least some poisonous substances—probably yours included.

There are lots of ways to have accidents with poisons. For example, a careless worker might swallow poison in contaminated food or beverages if he or she keeps or consumes these in work areas in which hazardous chemicals are present. An employee might forget about chemicals on his or her hands, rub the nose, or
put a contaminated hand over the mouth when coughing or sneezing. Poison can also get into an employee’s body through inhalation of toxic vapors, or it can be absorbed through the skin. To prevent poisoning on the job, teach employees to:

- Read labels and SDSs for information about chemical hazards before working with any substance.
- Talk to a supervisor about anything they don’t clearly understand about a chemical’s hazards or the necessary precautions.
- Always wear assigned PPE and make sure it is in good condition so that it protects against toxic chemicals.
- Follow required work procedures when handling, using, or storing chemicals.
- Be careful when removing contaminated work clothes and PPE—and remove gloves last by peeling them off, touching only the inside of the glove as it’s rolled down.
- Wash carefully after handling toxic chemicals—and always before going home and before eating, drinking, smoking, using the toilet, or applying cosmetics.

**Review this safety checklist to help prevent at-home poisonings.** The most common sites of accidental poisoning in the home are the kitchen, the bathroom, the garage, and the workshop. This checklist from the Consumer Product Safety Commission can help your employees poison proof their homes:

- Are potentially harmful substances in the kitchen, such as cleaning products, furniture polishes, and drain cleaners, kept in their original containers?
- Are they stored away from food?
- Are they put up high and out of reach of children or kept in locked cabinets?
- Do you keep a close eye on young children when using cleaning solutions and other chemical products?
- Do medicines and other potentially harmful products stored in the bathroom have child-resistant closures?
- Do you always turn on the light when taking or giving medicines?
- Have you thrown out all out-of-date prescriptions?
- Are all medicines in their original containers with the original labels?
- If your vitamin or mineral supplements contain iron, are they in child-resistant packaging? (Why? A few iron pills can kill a child.)
- Do all harmful products in the garage or workshop, such as charcoal lighter, paint thinner, and antifreeze, have child-resistant caps? Are they stored in their original containers? Are they stored up high and out of reach of children or kept in locked cabinets?
- Do you make sure that no poisons in the garage or workshop (or kitchen) are stored in drinking glasses or pop bottles?
May—Better Hearing and Speech Month

What are your workers hearing about noise hazards?
29 CFR 1910.95

Why it matters …

◆ Noise above 90 decibels can damage some of the structures in the ear, resulting in hearing loss.
◆ Approximately 30 million American workers are exposed to high noise levels on the job.
◆ There is no cure for hearing loss—once a worker suffers a hearing loss, it’s irreversible (although a hearing aid might provide some relief).

According to the National Institutes of Health (NIH), almost 42 million Americans suffer from a communication disorder—a problem with their speech, voice, language, or hearing. For your employees, the main issue is probably protecting their hearing, especially if they’re exposed to high levels of noise on the job. Since May is Better Hearing and Speech Month, why not take advantage of this opportunity to talk to employees about noise hazards and hearing protection?

What’s too much noise? OSHA considers workplace noise to be “excessive” if employees are exposed to noise levels of 85 decibels or higher during an 8-hour work period. When workers are exposed to these high levels of noise, OSHA requires you to:

◆ Train employees in hearing conservation, including the effects of noise on hearing, the purpose of hearing protection, and the advantages and disadvantages of different types of protection, as well as how to select, fit, use, and care for their hearing protection.
◆ Explain the purpose of hearing tests, test procedures, and testing schedules.
◆ Provide refresher training at least once a year.
◆ Update training to reflect changes in workplace noise levels or hearing protection.

What do your workers want to hear about workplace noise? Here are some key FAQs from NIOSH about hearing protection. This information can help you answer employees’ questions about noise and hearing conservation:

◆ How long can an employee be in a loud environment before it becomes hazardous? The degree of hearing hazard is related to both the level of the noise and the duration of the exposure. But this question is like asking how long can people look at the sun without damaging their eyes. The safest thing to do is to always protect your ears by wearing hearing protectors anytime you are around loud noise.

◆ How can a worker tell if a noise situation is too loud? There are two rules: First, if you have to raise your voice to talk to someone who is an arm’s length away, the noise is likely to be hazardous. Second, if your ears are ringing or sounds seem dull or flat after leaving a noisy place, you probably were exposed to hazardous noise.
Could’t hearing protection block out warning sounds, such as backup beeps? Using hearing protectors will bring both the noise and the warning sound down equally. So if the warning sound is audible without the hearing protector, it will usually be audible when wearing the hearing protector. For the unusual situations where this is not the case, the solution may be as simple as using a different hearing protector.

If an employee already has hearing loss is there any point in wearing hearing protection? If you have hearing loss, it’s important to protect the hearing that you have left. Loud noises can continue to damage your hearing, making it even more difficult to communicate at work and with your family and friends.

How often should hearing be tested? Anyone regularly exposed to hazardous noise should have an annual hearing test. Also, if you notice a change in hearing or develop ringing in the ears, you should have your hearing checked. People who have healthy ears and who are not exposed to hazardous noise should get a hearing test every 3 years.

What are the signs of hearing loss? Provide employees with this checklist from the NIH so they can use it to evaluate their own hearing health:

- Do you have a problem hearing on the telephone?
- Do you have trouble following a conversation when two or more people are talking at the same time?
- Do people complain that you turn the TV, radio, or stereo volume up too high?
- Do you have to strain to understand conversation?
- Do you have trouble hearing when there’s a lot of noise in the background?
- Do you find yourself asking others to repeat themselves?
- Do many people seem to mumble or not speak clearly?
- Do you misunderstand what others are saying and respond inappropriately?
- Do you have trouble understanding the speech of women and children?
- Do people get annoyed because you misunderstand what they say?

The NIH says that employees who answer “yes” to three or more of these questions should talk to their doctor about getting a hearing evaluation.
May—National Electrical Safety Month

Get the buzz on electrical safety training
29 CFR 1910, Subpart S

**Why it matters …**

- NIOSH says 41 percent of workplace electrocution victims are employees who have been on the job for less than a year.
- More than 60 percent of electrocution victims were males under the age of 35.
- Even when it doesn’t kill, it can give a nasty shock, burn skin, damage nerves and internal organs, and break bones in the neck as a result of muscle contractions.
- Electricity can kill or injure indirectly, too. For example, an employee on a ladder could be badly hurt from a fall when he receives a nonfatal shock.

**Are they “qualified”?** Because of the potential for fatal accidents when electricity is concerned, OSHA says that only “qualified” workers can perform electrical maintenance and repairs (29 CFR 1910.132). OSHA defines qualified workers as those who have been fully trained to identify exposed live electrical parts and their voltage, and who have learned exactly what procedures to follow when they work on exposed live parts or are close enough to be at risk. Everybody else is “unqualified,” and you don’t want any of them messing around with electrical wiring or trying to repair electrical equipment.

**What do unqualified workers need to know?** Although you don’t want unqualified workers performing electrical work, those who have a job that might expose them to the risk of electrical shock need some electrical safety training, too. They have to know about:

- Electrical hazards and risks associated with using electrical equipment, including power tools
- Procedures to follow to protect themselves when they work around electricity
- Tasks that can only be performed by qualified workers, such as repairs and maintenance of electrical equipment

**Shed some light on electrical safety.** Here are some everyday electrical safety tips that you can share with all employees:

- Inspect work areas daily for such hazards as flickering lights, warm cords or receptacles, sticking switches, burning odors, loose connections, and damaged wires.
- Report any problems to a supervisor immediately.
- Leave repairs and adjustments to authorized personnel.
- Select proper cords and connectors for each job, and make sure portable cords are suitable in terms of gauge size, flexibility, strength, and ability to withstand chemicals.
- Make sure all electrical equipment is properly grounded.
Plug in to a ground-fault circuit interrupter (GFCI) in wet areas and outdoors.
 Disconnect energy sources before performing maintenance and repairs, and lock and tag out disconnected power.
 Don’t use a metal ladder or wear a metal hard hat around electricity.
 Don’t touch anything electric when your hands are wet, when you’re standing on a wet floor, or when you’re in contact with a wet surface.
 Don’t overload outlets or circuits.
 Use an ABC or carbon dioxide (CO2) fire extinguisher on electrical fires; never use water.

July—National Fireworks Safety Month

Make some noise about fireworks safety

Why it matters …

- All fireworks are dangerous—even sparklers, which burn as hot as 2,000 degrees and can cause severe burns.
- Thousands of people of all ages end up in hospital emergency rooms every year because of fireworks accidents.
- Almost half of those injured are children, and many others are bystanders.
- Common fireworks injuries include burns to hands, arms, and face; loss of a finger or hand; and eye injuries that sometimes result in blindness.

July is National Fireworks Safety Month. Just in time for July 4th, here are some accident-preventing tips you can share with your employees about fireworks safety. Why be concerned about employees using fireworks on their own time? Because every year fireworks cause fires, injuries, and deaths, and you wouldn’t want anything like that to happen to any of your employees or their families—especially when you could prevent it with just a few minutes of commonsense training.

Start with the mutilating accidents. Fireworks displays are a traditional way to mark celebrations during the summer months—especially in July. But when someone is injured, a fun celebration quickly turns into a painful memory. Use these true stories, reported by the U.S. Consumer Products Safety Commission, to dramatize the hazards when you talk to employees:

- A 52-year-old man lit an artillery shell-type firework with a large fuse. Either he didn’t move away from it in time, or he came back to check it after it was lit, and the device exploded in his face. He was rushed to the hospital with first- and second-degree burns to about 40 percent of his body. He died 3 weeks later.
- A 19-year-old girl lit a firework that was supposed to shoot into the air. Instead, it exploded in her face, shattering the lens of her glasses and burning the skin around her eye.
◆ A 15-year-old boy placed an aerial firework on the ground that was designed to be launched from a tube, and lit the fuse. The device exploded, causing burns to his hand, face, and chest.

◆ A 27-year-old man picked up about 30 sparklers and began to light them for the kids in the neighborhood. Several of the sparklers exploded, resulting in serious and extensive burns to his hand.

**Remind employees who use fireworks to be very, very careful.** Review these important fireworks safety tips from the Hanford (Washington) Fire Department:

**Before you light fireworks:**
◆ Check the label. Legal fireworks have the name of the manufacturer, the words “Class C Common Fireworks,” and a warning on the label. Fireworks without this label should not be used.
◆ Put pets indoors (they may become frightened by the noise).
◆ Keep a bucket of water nearby in which to place all used fireworks.
◆ Have a water hose or fire extinguisher nearby to put out stray sparks.
◆ Clear a level area away from things that can burn.
◆ Teach family members to “stop, drop, and roll” if their clothes catch on fire.

**When lighting fireworks:**
◆ Have a designated adult light all fireworks. Do not allow children to light fireworks!
◆ Wear safety goggles.
◆ Light one at a time, move away quickly, and keep at a safe distance until the display has finished.
◆ Only use fireworks (including sparklers) outdoors and away from anything that can burn.
◆ Never throw fireworks, and never hold them in your hand after lighting.

**After you finish:**
◆ Clean up all debris.
◆ Remember, duds can be dangerous, too. If a device doesn’t light or fire, an adult should wait at least 5 minutes, approach it carefully, and place it in a bucket of water.
September—National Preparedness Month

Get ready for National Preparedness Month

Why it matters …

- As an employer, you have a responsibility to make sure your employees are prepared for all kinds of workplace emergencies.
- Employees need to know how to evacuate the workplace safely as well as carry out any emergency response duties effectively—both of which require some serious training.
- When employees are well prepared to act quickly and safely in a crisis, they are more likely to survive without injury, and damage to your facility can be minimized.

During National Preparedness Month, the U.S. Department of Homeland Security urges all Americans to become better prepared for emergencies—whether they’re dangerous storms, terrorist acts, or other deadly disasters.

Do you have a preparedness training plan? You should—and it should include a review of your organization’s emergency action plan as well as:

Training in types of emergencies. For example:

- Types of emergencies that have occurred at your facility in the past
- Likely emergencies given your facility’s geographic location (floods, tornadoes, earthquakes, etc.)
- Incidents that might result from a particular process or system failure
- Emergencies that could be caused by employee error (one of the biggest causes of workplace emergencies)
- Incidents that could result from the design or construction of your facility
- Emergencies you are required to deal with by regulation (for example, fires and hazardous chemical spills)

Training in emergency procedures. For example:

- How to report emergencies
- Location of alarms and emergency supplies
- Location and use of fire extinguishers
- Evacuation routes and procedures
- Procedures for accounting for personnel after evacuation
- Sheltering in place when evacuation is not possible

Training for specialized emergency roles. For example:

- Fire brigade personnel (fire-fighting techniques and equipment)
- Evacuation wardens (evacuation and communication procedures)
- Medical response team (CPR and first aid)
- Hazardous material spill containment and cleanup team (PPE, spill containment equipment and procedures)
Critical operations/shutdown personnel (emergency operations, equipment and/or process shutdown procedures)

Are employees prepared at home, too? Homeland Security suggests that your workers and their families take four simple steps this month to prepare for emergencies in their communities:

- **Get a kit of emergency supplies** that will allow for survival for at least 3 days in the event of a crisis in the area. You can get a complete list of recommended supplies to give as a handout to your workforce at [www.ready.gov](http://www.ready.gov) or [www.redcross.org/preparedness](http://www.redcross.org/preparedness).

- **Make a family emergency plan.** You can get additional information and templates to help your employees get started at [www.ready.gov](http://www.ready.gov) or [www.redcross.org/preparedness](http://www.redcross.org/preparedness).

- **Be informed** and learn more about different threats that could affect the community and develop appropriate responses to all possibilities.

- **Get involved and take the next step.** For example, employees can get training in first aid and emergency response or get involved in preparing their community for a crisis. Visit [www.citizencorps.gov](http://www.citizencorps.gov) or [www.redcross.org/preparedness](http://www.redcross.org/preparedness) to find out about training and volunteer opportunities through your local Citizen Corps Council or American Red Cross Chapter.

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### October—Eye Injury Prevention Month

**Prevent eye injuries and save your sight**

29 CFR 1910.133

#### Why it matters …

- It's been estimated that 2,000 eye injuries occur in the workplace every day.
- In 10 percent to 20 percent of those injuries, the person loses some or all sight in one or both eyes.
- Safety experts say that 90 percent of all eye injuries can be prevented.

How many people do you think would say, “I’ve got two eyes—I can afford to lose one”? Nobody in their right mind! And yet, how many of your employees right this minute could be taking the risk of losing an eye in a job accident? Maybe more than you’d like to think. To keep them safe from eye injuries, take advantage of the fact that October is Eye Injury Prevention Month to work in a little eye safety training during the next few weeks.

**The “Big Three” reasons for eye injuries on the job.** The Department of Labor says that the three most common reasons for workplace eye injuries are:

1. Not being aware of potential eye hazards;
2. Not using eye protection; and
3. Using the wrong type of eye protection for the hazard.
That means that your employees can avoid most eye injuries simply by:

- Watching out for eye hazards;
- Taking the right precautions while they work; and
- Always wearing the right kind of eye protection.

**The right type of protection makes all the difference.** It’s essential for employees to select the right type of eyewear to protect their eyes against the maximum level of potential hazard. For example:

- Flying fragments, objects, chips, or particles—safety glasses with side shields or goggles with side shields, and for extra protection, a face shield over the safety glasses or goggles
- Chemical splashes—safety goggles and a face shield for extra protection
- Dust, fumes, mists, gases, and vapors—offset ventilated safety goggles worn with a face shield
- Hot sparks or splashes—goggles or safety glasses with side shields and a face shield
- Radiant energy—goggles with special lenses to filter out the harmful light

**But don’t stop there!** There’s more employees can do to prevent eye injuries. Make sure they take these other precautions as well:

- Obey all warning signs about required eye protection.
- Always put on protective eyewear before entering an area where hazards may be present.
- When in doubt, assume that eye hazards are present.
- If you’re not sure about the correct type of eye protection to use in a particular situation, ask your supervisor before you begin to work.

**Making the most of your eye protection.** To offer maximum protection safety eyewear must fit well and be in good condition.

- **Proper fit.** Eye protection is only as good as it fits. Poor fit is not only uncomfortable, but it also defeats the purpose of wearing the protection to keep objects, vapors, splashes, etc., away from the eyes. Make sure eye protection fits snugly enough to keep out hazards, but comfortably enough to see and move around easily. To get a good fit with safety goggles, adjust the strap and place it low on the back of the head. Goggles should fit comfortably on the bridge of the nose, and the center of the lens should be in front of the eye.

- **Inspection.** Inspect eye protection before each use, checking for bent or damaged frames, scratched or pitted lenses, and loose or damaged headbands. Replace any damaged equipment right away.

- **Care and maintenance.** After each wearing, wash eye protection gently in warm soapy water, rinse thoroughly, and air-dry. After chemical exposure or before use by another employee, use a disinfectant to clean eye protection. Store eye protection in a clean dustproof case.
October—National Fire Prevention Week

Hot training topics for fire safety

Why it matters …

- According to OSHA, workplace fires and explosions kill hundreds of American workers every year and injure thousands more.
- Fires cost businesses billions of dollars a year in property damage.
- Some facilities are destroyed by fire, putting employees out of work and severely impacting the company’s bottom line.

Not only do your employees need to know how to respond to workplace fires, they also have to understand how to help prevent them. That’s a lot of information to communicate about fire safety, and there’s no better time than the present.

Teach workers what to do if fire strikes. All employees should know the essentials for responding effectively in the event of a fire.

When you hear a fire alarm:

- Evacuate immediately using your assigned evacuation route. If that route is blocked, use your alternate.
- Close doors behind you as you leave.
- Help others evacuate if you can do so safely.
- If you encounter smoke, crawl low under the smoke.
- Outside the building, move away from exits. Go directly to your assigned assembly area and report to the person who is taking a head count.
- Remain outside until you are told it is safe to reenter the building.

If you discover a fire:

- Activate the nearest fire alarm.
- Call 911—don’t assume that someone else has already done this.
- Evacuate the building.

If you’re unable to get out of the building:

- Create an area of refuge in a room with windows. Use wet cloth to seal cracks under doors and seal vents against smoke.
- Don’t break windows. Open the window just a crack if you need air.
- Stay low under smoke, and cover your nose and mouth with a wet cloth.
- Signal for help by using a phone or hanging something in the window.

If you expect employees to use fire extinguishers, make sure they’re properly trained. Make sure they know which extinguisher to use for the different types of fires:
- A for fires involving combustibles like paper
- B for grease, gases, or flammable liquids like gasoline, oil, solvents, and paint
- C for electrical wiring and equipment
- D for combustible metals like magnesium or sodium
- K for kitchen fires that involve cooking oil or fat

Also train them to use a fire extinguisher properly by teaching them the PASS technique:
- Pull the pin on the extinguisher.
- Aim at the base of the fire.
- Squeeze the handle to release the extinguishing agent.
- Sweep back and forth until the fire goes out.

At the same time you teach employees how to use an extinguisher, make sure they know when to use one and when not to. Portable fire extinguishers are made for small fires only. Employees should understand that if a fire is big or spreading, they should not try to fight it but instead call 911, activate the fire alarm, and evacuate the building.

**Remember that preventing workplace fires is always better than fighting them.** So don’t forget to teach your employees some basic fire prevention strategies this month, too. For example:
- Keep a clean work area, and don’t allow trash and other combustible materials to collect.
- Take proper precautions with flammable substances, always using and storing them safely.
- Use and maintain electrical equipment properly, and report any problems immediately.
- Avoid exposing flammable and combustible materials to ignition sources.
- Don’t mix chemicals that could react or store them near one another.

**November—Holiday Safety**

**Wish your workers a happy and safe holiday**

**Why it matters ...**

According to Mothers Against Drunk Driving, in one recent year:
- More than 37 percent of all motor vehicle fatalities between Thanksgiving and New Year’s were alcohol-related.
- On Christmas Day, that figure jumped to 47.4 percent.
- On New Year’s Eve, 45.2 percent of motor vehicle fatalities were alcohol-related.

The holidays are a joyous time, but to make sure they are also a safe time, take a few minutes to review some important safety information with your employees.
At work. Establish safety rules for holiday decorations and workplace parties—and enforce them.

- Limit holiday decorations to areas of the facility where they won’t create a fire hazard.
- Make sure decorations are kept away from heat sources, including office equipment.
- If you use outdoor decorations such as holiday lights, make sure they’re properly installed, using appropriate outdoor lights and cords.
- Forbid alcohol at workplace holiday parties—and monitor to make sure nobody sneaks any in.
- If management hosts an off-site holiday party for employees at which alcohol is available, be sure to review the information below about holiday safety on the road.

At home. To make sure that employees are safe at home during the holidays, review these seasonal safety tips from the New York City Fire Department:

- Make sure you have a working smoke detector on every level of your home.
- Choose a freshly cut tree. Remember, live trees need water so be sure to refill often.
- Cut a few inches off the trunk before placing in water.
- When your tree becomes dry, discard it promptly.
- Keep your tree away from heat sources, sparks, or flames.
- Don’t leave indoor tree lights on while unattended.
- Use wire or cord to secure your tree to the wall or ceiling to prevent it from toppling over on small children or pets.
- Examine all light sets before use. Don’t use damaged light sets or extension cords.
- Avoid overloading circuits.
- Use only Underwriters Laboratories-approved lights on your tree, and no candles.
- Promptly remove all discarded packages and wrappings from the home.
- Do not burn wrappings in the fireplace or wood stove.
- If you use candles, make sure they are in stable holders on a flat, stable surface, and create a 1-foot circle of safety around them.
- Blow out lit candles when you go out.
- Do not leave children or pets unattended with a lit candle.
- Do not use candles near such combustible materials as curtains, drapes, bedding, and/or cabinets.

On the road. Remind employees that if they plan to drink at a holiday party, they should:

- Designate a driver ahead of time (a designated driver is a nondrinking driver).
- Consume food, sip their drinks, and alternate with nonalcoholic beverages.
- Take a cab or public transportation home, ask a friend (who hasn’t been drinking) for a ride, or spend the night.
If employees are planning to host a holiday party this season, remind them to be responsible and follow this advice from the National Commission Against Drunk Driving:

- Encourage your guests to designate a driver ahead of time.
- Have a key basket and collect each guest’s keys upon arrival. Know the condition of your guests before returning their keys at the end of the party.
- Plan activities so that the focus isn’t just on drinking.
- Serve a variety of foods and include nonalcoholic beverages alongside alcoholic beverages.
- If serving a punch containing alcohol, mix with a noncarbonated base like a fruit juice. Carbonated bases speed up the absorption of alcohol into the bloodstream.
- Designate one person to be the bartender. This will help control the number of drinks and the amount of alcohol in each drink.
- Stop serving alcohol an hour (preferably 90 minutes) before the party’s over. Bring out dessert, coffee, and other nonalcoholic drinks.
- Arrange a ride home for guests who’ve overindulged or invite them to spend the night.

December—National Drunk and Drugged Driving Month

DUI and worker safety

**Why it matters …**

- It’s a sobering thought that someone dies in an alcohol-related traffic crash every 30 minutes.
- Nearly 600,000 Americans are injured in alcohol-related traffic crashes each year.
- Out of every 10 Americans, three face the possibility of being directly involved in an alcohol-related traffic crash at some point in their lives.
- Close to 1.5 million people nationwide were arrested in one recent year for driving under the influence of alcohol and/or narcotics.

’Tis the season to be jolly—but safe as well. While your employees are enjoying holiday parties this season, they’d be wise to keep these important facts from the National Commission Against Drunk Driving in mind:

- The three most critical skills necessary for a good, safe driver are judgment, vision, and reflexes.
- Alcohol impairs a driver’s judgment, vision, and reflexes.
- An individual’s driving skills can become impaired well before reaching the legal blood alcohol limit.
Alcohol may have a different effect each time a driver drinks, depending on whether the individual has eaten, what was eaten, mood, metabolism, fatigue level, and other factors.

A 12-ounce can of beer, a 5-ounce glass of wine, and a 1 1/2-ounce shot of liquor all have about the same amount of alcohol.

The body eliminates alcohol at a rate of about one drink per hour.

If you drink and drive, you might kill or injure someone in a crash. You might be arrested for, and convicted of, drunk driving. You could lose your license.

Don’t play highway roulette over the holidays. Here are some tips for sensible and safe holiday season driving that you can pass along to your workers:

- Decide who will be the designated driver before you go to a party.
- If you drink too much and don’t have someone to drive you home, take a taxi or public transportation.
- Never ride in a car with a driver who has been drinking—call a taxi or ask a friend to drive you home.
- Remember that the combined effect of drugs and alcohol will impair much quicker and more severely limit your ability to drive.
- Be a responsible host. Serve food and have nonalcoholic drinks available. Don’t let your guests drive after drinking alcohol, and never serve alcohol to someone under the age of 21.
- Wear your seat belt, and be sure children are properly secured in child safety seats.
- Keep a safe distance from anyone driving erratically.
- Report drunk drivers immediately to area law enforcement and be prepared to give the license plate number, description of the vehicle, and the direction in which it was traveling.
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