



*"Safety Comes First"*

# Case Western Reserve University Environmental Health and Safety

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Aerial lifts are any vehicle-mounted device with a bucket to lift personnel. Do you know how to safely operate an aerial lift? The following are some safe work practices to use when operating an aerial lift.

- Maintain and operate aerial lifts according to manufacturer's instructions.
- Make sure the lift is positioned on a level and solid surface.
- Position outriggers or stabilizers correctly, and place wheel chocks under tires.
- Wear a personal fall arrest system (PFAS) attached correctly to the lift. Note that belting off to an adjacent pole, structure, or equipment is not permitted.
- Don't overload the lift—the load capacity should be on an attached plaque.
- Make sure ropes, electric cords, and hoses don't get tangled with the lift when the platform is elevated, lowered, or moved.
- Stand firmly on the floor of the lift, keeping the soles of your shoes flat on the platform.
- Never use a plank to bridge a gap between the lift and a structure or work surface.
- Don't sit or climb on lift guardrails, and never use a ladder on a lift to gain more height.
- Before lowering the lift, make sure the area under the platform is clear.
- Before moving an aerial lift for travel, inspect the boom to see that it is properly cradled and outriggers are in stowed position (except for equipment that is specifically designed and certified to operate with a person in the platform).

Source: Safety.BLR

# Radiation



*“The two types of ionizing radiation are particulate and electromagnetic.”*

## Overview

Radiation may be defined as energy traveling through space. Non-ionizing radiation is essential to life, but excessive exposures will cause tissue damage. All forms of ionizing radiation have sufficient energy to ionize atoms that may destabilize molecules within cells and lead to tissue damage.

Radiation sources are found in a wide range of occupational settings. If radiation is not properly controlled it can be potentially hazardous to the health of workers.

The following link to information about non-ionizing and ionizing radiation in the workplace.



## [Non-Ionizing Radiation](#)

Electromagnetic radiation ranging from extremely low frequency (ELF) to ultraviolet (UV) comprise non-ionizing radiation.

[ELF Radiation](#) | [RF/MW Radiation](#) | IR | Visible | UV | [Laser Radiation](#)



## [Ionizing Radiation](#)

The two types of ionizing radiation are particulate (alpha, beta, neutrons) and electromagnetic (x-rays, gamma rays) radiation.

Particulate Radiation | [Electromagnetic Radiation](#)

For information about emergencies involving ionizing radiation exposures, visit OSHA’s [Radiation Emergency Preparedness and Response](#) page.

(The Radiation Emergency Preparedness and Response page does not address non-ionizing radiation.)

## Radiation, cont.

(Continued from page 2)

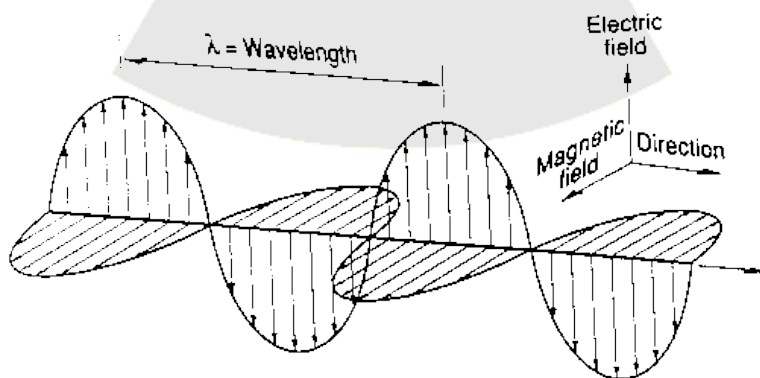


### Electromagnetic Radiation

The most familiar form of electromagnetic (EM) radiation is sunshine, which provides light and heat. Sunshine consists primarily of radiation in infrared (IR), visible, and ultraviolet (UV) frequencies. Lasers also emit EM radiation in these "optical frequencies." The higher frequencies of EM radiation, consisting of x-rays and gamma rays, are types of ionizing radiation. Lower frequency radiation, consisting of ultraviolet (UV), infrared (IR), microwave (MW), Radio Frequency (RF), and extremely low frequency (ELF) are types of non-ionizing radiation.

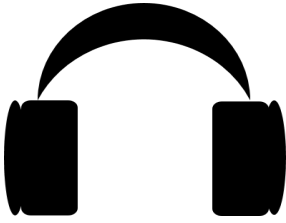
[Radiation](#). OSHA Training and Reference Materials Library. Provides several presentations and lectures on radiation, including non-ionizing radiation.

[The Electromagnetic Spectrum](#). Michigan Technological University (MTU). Describes the electromagnetic spectrum.



*“The most familiar form of electromagnetic (EM) radiation is sunshine.”*

## Noise And Hearing Loss Prevention



*“Hearing loss is also strongly associated with depression.”*

### Preventing Hearing Loss

In the United States, hearing loss is the third most common chronic physical condition after high blood pressure and arthritis. Not surprisingly, hearing loss is among the most common work-related illnesses. Workers are faced with occupational noise hazards every day. This page provides guidelines and recommendations for employers and workers to help reduce risks from noise exposure in the workplace.

**Did you know that within *every* industry sector, there are workers at risk for work-related hearing loss?**

### Why is prevention important?

- Almost all work-related hearing loss is **permanent**, and it can have a **profound impact on quality of life**.
- As hearing loss worsens, hearing and understanding others becomes increasingly difficult, which can lead to isolation.
- Hearing loss is associated with **cognitive (mental) decline** and **heart problems**, such as high blood pressure and heart disease.
- Hearing loss is also strongly associated with **depression**.
- Hearing loss can lead to **loss of enjoyment**, when all the sounds we want to hear (e.g., music, voice of loved one) become muted and lack quality.
- **Ringing in the ears** (tinnitus), which often occurs along with hearing loss, can disrupt sleep and concentration and is associated with both depression and anxiety.
- Hearing loss can impact **safety** at home and on the job.

**Income is typically lower** among workers with hearing loss, than among workers with normal hearing. Fortunately, with today’s hearing loss prevention strategies and technologies, work-related hearing loss can be nearly always prevented.

### What can workers do to prevent work-related hearing loss?

- Find out if the noise in your workspace is hazardous.
- If you must raise your voice to speak with someone at arm’s length,

## Noise And Hearing Loss Prevention, Cont.

(Continued from page 4)

then the noise is likely at a hazardous level.

- You can also check the noise level using a sound level meter app on your phone, such as the [NIOSH Sound Level Meter app](#).
- Ask your safety manager or direct supervisor to check the noise levels in your workplace, making sure they are below 85dBA.

### Reduce your noise exposure:

- Take a break from the noisy activity.
- Reduce noise at the source of the noise. Use [quieter equipment](#) and keep equipment well maintained and lubricated.
- Enclose the source of the noise or place a barrier between you and the source.
- Increase the distance between you and the source of the noise.
- Reduce your time in noisy areas.
- Always wear hearing protection in noisy areas, and if using foam plugs, [insert them correctly](#).
- If you are listening to music or something else, keep the volume at a safe level and only listen in areas that are not noisy.

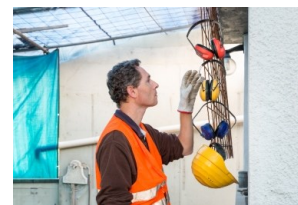
### Reduce or stop exposure to chemicals that may damage your hearing:

[Use a less-toxic or non-toxic chemical](#).

- Wear gloves, long sleeves and eye protection.
- Wear a respirator or other protective equipment, as appropriate.
- Read and follow all chemical safety instructions.

Source: Safety BLR

*“Take a break from the noisy activity.”*



## Winter Holiday Fire Safety



“ ...  
**December**  
 is the  
**peak time**  
 for home  
 fires  
 caused by  
 candles.”

Millions of people across the United States will celebrate this winter season with family and friends. However, according to the National Fire Protection Association, December is the peak time for home fires caused by candles. With the fire hazard high, follow these seasonal tips to prevent your good time from going up in smoke.

### **General safety**

- You should have a smoke alarm installed on every level/floor of your home. Test the equipment monthly and replace the batteries according to the manufacturer's instructions. Smoke alarm devices older than 10 years should be completely replaced.
- Know your exit routes and have an escape plan. Make sure every member of your family, including children, know what to do in case of an emergency.

### **Lights and decorations**

- Inspect decorative lights before you put them up—throw away pieces that have frayed, pinched, or exposed wires or broken bulbs.
- Some lights are rated for indoor or outdoor use only. Read and follow all of the manufacturer's warnings.
- Use clips to hang string lights, not nails, in order to avoid damaging the wiring.
- Choose decorations that are flame resistant or flame-retardant.
- Don't overload electrical sockets.
- Turn off lights and electronic decorations before going to bed or leaving home.

### **Candles**

- If possible, use battery-operated candles instead of those with flames.
- Store matches and lighters away from the reach of children.
- Keep lit candles away from the reach of children.
- Place candles away from flammable materials, including near windows with blinds or curtains.
- Never leave a burning candle unattended—make sure they are fully extinguished before leaving the room or going to bed.

### **Trees**

- If decorating with a fresh tree, select one with green needles that don't fall off when you touch them. Cut 2 inches from the base on the trunk before placing it in a tree stand.
- Make sure the tree is located at least 3 feet from any heat source, and that it is not blocking an exit.
- Never decorate a tree with lit candles.
- Dry trees pose an elevated fire hazard. Water the tree stand each day.
- Dispose of the tree when it is dry or immediately after you are finished using it. Don't store a dry tree in your home, garage, or on your property for any length of time. Check with your community to see if it is having a recycling program.
- Artificial trees, even if made of flame-resistant material, can succumb to fire if one starts.

Source: Safety BLR

## Chemical Spotlight: Carbon Monoxide

**DANGER!** Carbon monoxide (CO) is an odorless, colorless gas that kills without warning. It claims the lives of hundreds of people every year and makes thousands more ill. Many household items including gas- and oil-burning furnaces, portable generators, and charcoal grills produce this poison gas. CO can't be seen, can't be smelled and can't be heard.

The symptoms and signs of carbon monoxide poisoning are variable and nonspecific. The most common symptoms of CO poisoning are headache, dizziness, weakness, nausea, vomiting, chest pain, and altered mental status.

The clinical presentation of CO poisoning is the result of its underlying systemic toxicity. Its effects are caused not only by impaired oxygen delivery but also by disrupting oxygen utilization and respiration at the cellular level, particularly in high-oxygen demand organs (i.e., heart and brain).

Symptoms of severe CO poisoning include malaise, shortness of breath, headache, nausea, chest pain, irritability, ataxia, altered mental status, other neurologic symptoms, loss of consciousness, coma, and death; signs include tachycardia, tachypnea, hypotension, various neurologic findings including impaired memory, cognitive and sensory disturbances; metabolic acidosis, arrhythmias, myocardial ischemia or infarction, and noncardiogenic pulmonary edema, although any organ system might be involved.

Following these important steps can keep your family safe.

### CO DETECTORS

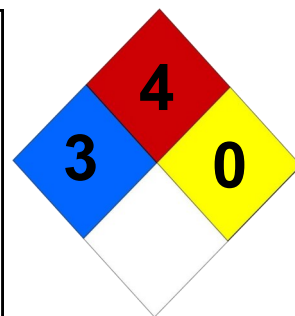
- Install battery-operated or battery back-up CO detectors near every sleeping area in your home.
- Check CO detectors regularly to be sure they are functioning properly.

### OIL & GAS FURNACES

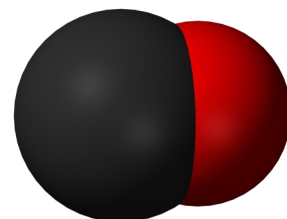
- Have your furnace inspected every year.

### PORTABLE GENERATORS

- Never use a generator inside your home or garage, even if doors and windows are open.
- Only use generators outside, more than 20 feet away from your home, doors, and windows



*“CO can't  
be seen,  
can't be  
smelled  
and can't  
be heard.”*

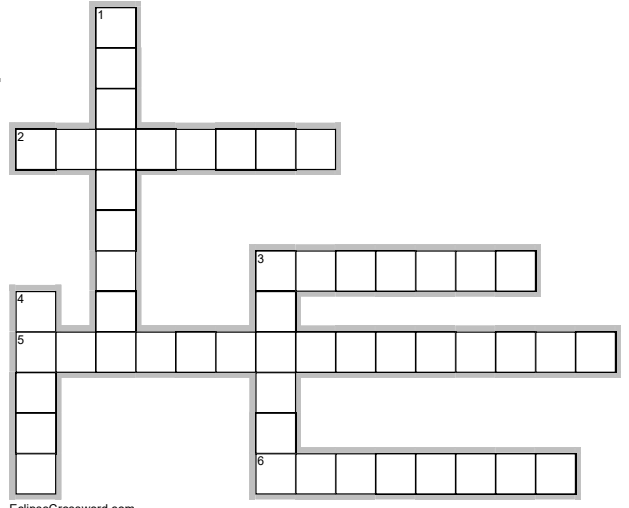


# Fun Page

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E

## Across

- Carbon \_\_\_\_\_ is an odorless, colorless gas that kills without warning.
- If possible, use battery-operated \_\_\_\_\_ instead of those with flames.
- The two types of ionizing radiation are particulate and \_\_\_\_\_.
- The most familiar form of electromagnetic (EM) radiation is \_\_\_\_\_.



## Down

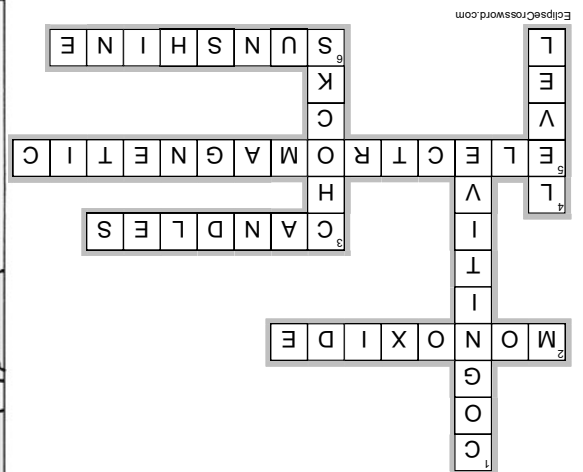
- Hearing loss is associated with \_\_\_\_\_ (mental) decline and heart problems.
- Position outriggers or stabilizers correctly, and place wheel \_\_\_\_\_ under tires.
- You can also check the noise level using a sound \_\_\_\_\_ meter.

## Funny Corner



"Is it just me, or does that sound like a huge waste of time?"

## Puzzle Answers





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*Safety  
Quotes*

*Safety  
doesn't  
happen by  
accident.*

*~Author  
Unknown*

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