"Safety Comes First"

Case Western Reserve University

Environmental Health and Safety

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In this issue:

Inspecting Harnesses

Before you use a harness for the first time during your work shift, inspect it for mildew, wear, damage, and other deterioration. Be sure to:

- Check the entire length of the webbing on both sides of each strap for frayed edges, broken fibers, pulled stitches, stretching, cuts, burns, and chemical damage.
- Check D-rings for distortion, cracks, breaks, and rough or sharp edges, and check D-ring back pads for damage.
- Inspect buckles for distortion. The outer bars and center bars must be straight. On friction and mating buckles, pay special attention to corners and attachment points at the center bar. On quick-connect buckles, make sure the dual-tab release mechanism is free of debris and engages properly.
- Inspect buckle or D-ring attachments for any unusual wear, frayed or cut fibers, and broken stitching. Make sure the rivets are tight. Body-side rivet bases and outside rivets should be flat against the material.
- Make sure buckle tongues are not distorted and that there are no sharp edges. They should fit the shoulder of the buckle and move freely back and forth in the socket, and the roller should turn freely on the frame.
- Check for loose, distorted, or broken grommets.
- Look for any other cuts, tears, scuffs, mold, stretching, and deterioration.

If you find any damage, remove the harness from service immediately, and tag or mark it as unusable. If any part of the personal fall protection system is involved in a fall incident, remove it from service immediately.

Source: Safety.BLR

Radiation Safety

"First responders can use alarming dosimeters..."

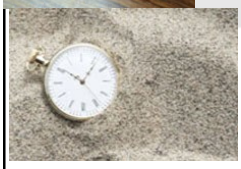
The guiding principle of radiation safety is "**ALARA**". ALARA stands for "as low as reasonably achievable". This principle means that even if receiving a small dose that has no direct benefit, you should try to avoid it. To do this, you can use three basic protective measures in radiation safety: time, distance, and shielding.

Time

- Time refers to the amount of time you spend near a radiation source.
- Minimize your time near a radiation source to only as long as it takes to accomplish a task.
- First responders can use alarming dosimeters to help them minimize the amount of time they are in an area with elevated radiation levels.

Imagine spending the day at the beach.

If you stay in the sun the entire day, you will likely get sunburned.



If you are there for just a short period of time, you are less likely to get sunburned. The amount of **time** you are there makes a difference.

Distance

- Distance refers to how close you are to a radiation source.
- Maximize your distance from a radioactive source as much as possible.
- If you increase your distance from a radiation source, you will decrease your dose.

Imagine sitting very close to a fireplace. You can feel the heat and may even be uncomfortable.

If you go to the other side of the room, you would be more comfortable. So as you move away, the intensity decreases.

(Continued on page 3)

Radiation Safety , cont.

(Continued from page 2)

Shielding

In a radiation emergency you may be asked to get inside a building and take shelter for a period of time.

- To shield yourself from a radiation source, put something between you and the source.
- In a radiation emergency, officials may instruct you to get inside and put as many walls between you and the outside as possible. This is another way to use shielding.
- Protective clothing can shield first responders from alpha and beta particles, but will not protect them from gamma rays. Standing behind a wall or a fire truck can also serve as a shield.

Alpha particles can be shielded with something as thin as a sheet of paper, or our outer layer of dead skin cells.

Beta particles can be shielded effectively with a few inches of plastic, or a layer of clothing.

Gamma rays can be shielded effectively by adding a few inches of lead or other dense substance between you and the source of radiation.

"Protective clothing can shield... from alpha and beta particles, but...not ...gamma rays."

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

Job Hazard Analysis

"Hazards can result in injuries and illness."

What is it?

A job hazard analysis (JHA) is a way of breaking down a job or task into its basic steps to find the potential hazards. Hazards can result in injuries and illnesses. JHA focuses on the relationship between you, the worker; the task or job; the tools; and the environment. There are six basic parts to understanding JHA.

Part 1: Analyzing jobs or tasks. Not every single job or task will be the subject of a JHA. Generally, the most hazardous jobs or the jobs that have caused injuries in the past are scrutinized the most. Managers are in charge of this, but if you think a job or task that hasn't been selected for a JHA needs one, suggest it to your supervisor or manager.

Part 2: Observing the job or task. Once a job has been selected for JHA, all the steps it involves will be considered carefully and listed in the JHA form. The manager will pay attention not only to the obvious steps of the job but also to start-up, shutdown, and any necessary maintenance steps.

Part 3: Describing the hazards in each step. For each step listed in the JHA form, hazards associated with it will be considered, and the hazards that correspond to each step in the JHA form will be recorded. The following are some of the common types of hazards:

- Heavy lifting, repetitive motion, or awkward postures or movements
- Chemical exposure
- Hot or cold conditions
- Electrical hazards
- Burn hazards

(Continued on page 5)

Job Hazard Analysis, Cont.

(Continued from page 4)

- Fire or explosion hazards
- Dangerous machinery or equipment
- Slips, trips, and falls
- Workplace conditions like lighting, noise, and ventilation
- Human-related hazards like vulnerability to crime or violence

Part 4: Developing corrective measures. For each hazard identified, the manager will think about what could be done to reduce the risk. Should machine guarding be installed? Would changing the setup of a work area or modifying the process make the job safer? Is personal protective equipment (PPE) needed? Suggested corrective measures for each step will be recorded in the JHA form.

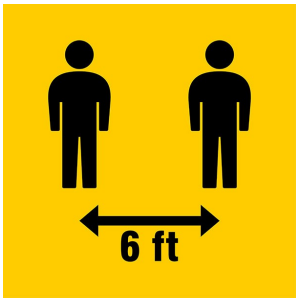
Part 5: Writing safe job procedures. A safe job procedure that takes hazards and corrective measures into account will then be written for the task. These safe job procedures are an important resource. They should be clear and easy to understand. These procedures should be written in a step-by-step format, implement simple language, and include any necessary special equipment or PPE.

Part 6: Keeping records. Records of all the JHAs performed at the facility will be kept and maintained so that they can be updated and revised as needed.

Source: Safety BLR

"...safe job procedures are an important resource."

COVID-19: Social Distancing Checklist for Reopening The Workplace



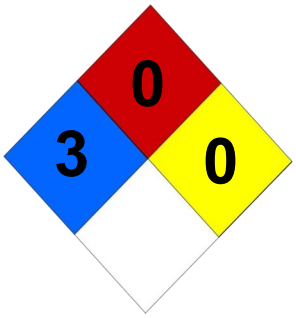
"Follow all applicable state and local orders and directives..."

As employees return to the workplace, each facility will need to take actions to ensure the workforce can maintain proper social distancing (i.e., maintaining a distance of at least 6 feet between employees). This will involve administrative actions to determine which employees or groups of employees return to the workplace and their work schedules. It will also involve physical changes to the workplace to avoid having employees in close proximity to customers or one another. Be sure to:

- Follow all applicable state and local orders and directives related to social distancing.
- Determine which employees or groups of employees to bring back to the facility while still being able to maintain proper social distancing and taking into account requests not to return, as well as employees who may be in a high-risk group or live with someone in a high-risk group.
- Determine what administrative actions can be taken to honor the requests of those who wish not to return to the workplace and to minimize the number of people on-site at the same time. Options include:
  - Continue to allow remote working, if possible.
  - Stagger shifts.
  - Implement alternate work schedules.
- Increase the distance between employees for proper social distancing (i.e., at least 6 feet). Options include:
  - Workstations
    - Modify the layout and/or use of workstations by physically relocating them or by only allowing certain workstations to be used.
    - Install partitions or other physical barriers between workstations.
    - Implement policies to limit sharing equipment.
  - Meeting/conference rooms
    - Conduct meetings virtually via audio or videoconference.
    - Post signs designating the maximum capacity of the room.
    - Remove/rearrange furniture to reinforce the maximum capacity and social distancing.
  - Common areas (e.g., break rooms and cafeterias)
    - Encourage employees to eat outside, in their cars, or at their desks or workstations.
    - Post signs designating the maximum capacity of the room.
    - Remove/rearrange furniture to reinforce the maximum capacity and social distancing.
- Communicate policies and actions being taken to implement proper social distancing to employees electronically and by using visual cues and/or signs as reminders throughout the facility.
- Increase the distance between customers and employees.

Source: Safety BLR

Chemical Spotlight: Phosphoric Acid



Phosphoric acid (also known as orthophosphoric acid) is an odorless, colorless liquid (if it is in aqueous solution) or a transparent crystalline solid. Phosphoric acid is commonly used to manufacture fertilizers and other chemicals. It can also be found in some cleaning products and solvents, but is also used as a food additive (e.g., it gives many colas their distinctive, sharp taste).

Because it is an acid, phosphoric acid reacts with strong bases like sodium hydroxide; therefore, it should be stored away from incompatible chemicals. It is corrosive to metals and can react with some metals to produce flammable hydrogen gas. Although it is not combustible, in the presence of fire, phosphoric acid may decompose into toxic gases.

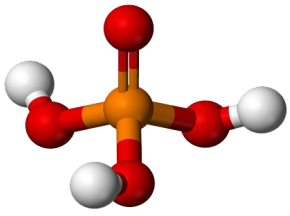
When working with phosphoric acid, always wear the proper personal protective equipment (PPE), including tightly fitting safety goggles or a face shield and gloves. If skin comes into contact with phosphoric acid, you may experience pain, redness, burning, or blistering. If skin is exposed, quickly remove contaminated clothing and shoes and immediately wash with soap and water. If eyes come into contact with phosphoric acid, you may experience burns, blurred vision, or blindness. In case of eye contact, rinse with water immediately and consult with a physician.

If phosphoric acid is spilled or leaked:

- Evacuate personnel to a safe area.
- Wear respiratory protection, and ensure adequate ventilation to avoid inhalation of gases, fumes, or mists.
- Soak up the spill with inert absorbent material, and dispose in a suitable, closed container.

"...always wear the proper personal protective equipment (PPE)..."

Source: Safety.BLR

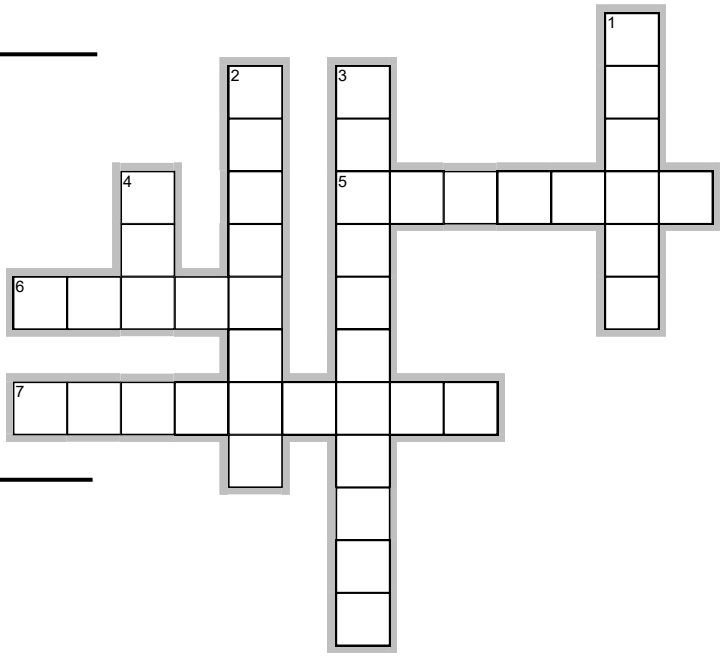


Fun Page

F U N P A G E

Across

5. _____ of all the JHAs performed at the facility will be kept and maintained so that they can be updated and revised as needed.
6. ---------- stands for “as low as reasonably achievable”
7. Putting as many walls or barriers between you and a radioactive source is known as _____.



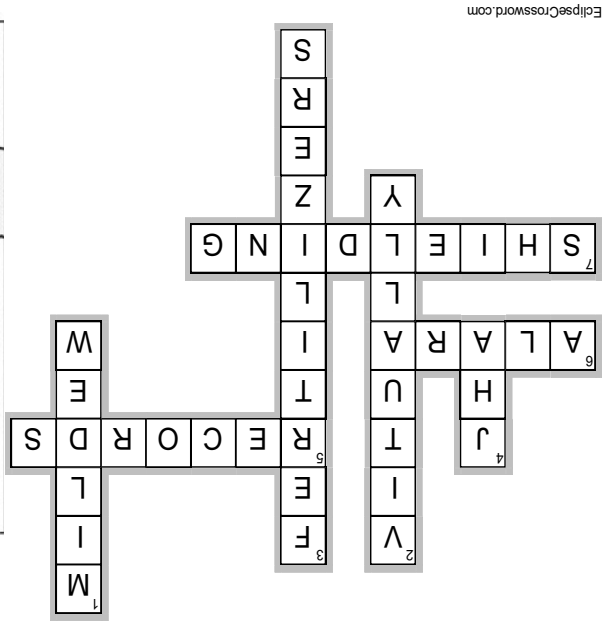
Down

1. Before you use a harness for the first time during your work shift, inspect it for _____, wear, damage, and other deterioration.
2. Social distancing includes conducting meetings _____ via audio or videoconference.
3. Phosphoric acid is commonly used to manufacture _____ and other chemicals.
4. _____(acronym) focuses on the relationship between you, the worker; the task or job; the tools; and the environment.

Funny Corner

“What am I doing? Inspecting hazards, just like you asked!”

Puzzle Answers



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Safety Quotes

Tomorrow is your reward for working safely today.

~Author Unknown

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