"Safety Comes First"

Case Western Reserve University

Environmental Health and Safety

Sept-Oct 2025

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In this issue:

Injuries, Illnesses, and Fatalities (IIF)

Nonfatal injuries and illnesses, private industry:

Total recordable cases: 2,569,000 in 2023

Cases involving days away from work (DAFW): 946,500 in 2023

Median Days Away From Work 10 in 2021 – 2022

DAFW Cases involving sprains, strains, tears: 547,980 in 2021 – 2022

DAFW Cases involving injuries to the back: 250,830 in 2021 – 2022

DAFW Cases involving falls, slips, trips: 450,540 in 2021 – 2022

Fatal work-related injuries:

Total fatal injuries (all sectors): 5,283 in 2023

Roadway incidents (all sectors): 1,252 in 2023

Falls, slips, trips (all sectors): 885 in 2023

Homicides (all sectors): 458 in 2023

Source: **U.S. Bureau of Labor Statistics**

Lockout/Tagout

Safety.BLR.com®
Safety Training & Compliance Just Got Easier

"Leave all lockout and tagout devices in place while authorized employees are servicing or repairing machinery."

Affected employee Lockout and tagout devices both prevent access to hazardous energy and warn you to keep away from it. Lockout devices prevent machinery or equipment from being turned on during servicing and maintenance and prevent machine and equipment parts from moving, usually by using locking or blocking devices. Tagout devices warn you, usually with warning tags, not to use the equipment. Tags are also used in situations when it isn't possible to place locks on controls or parts. When you see locks or tags on a piece of equipment:

- Leave all lockout and tagout devices in place while authorized employees are servicing or repairing machinery.
- Wait for authorized employees to tell you it's OK before using equipment.
- Verify that the equipment is safe to operate after servicing or that repairs have been completed and locks and tags have been removed. If you operate machinery or equipment, you should understand the procedure authorized employees follow to lock out machines or equipment, even though you don't perform it:
  1. First, an authorized employee should notify affected employees such as yourself of the planned lockout or tagout.
  2. Second, the authorized employee will shut down the machinery or equipment.
  3. Next, the authorized employee will isolate the equipment from all energy sources.
  4. The employee will then lock or tag out the energy-isolation device to prevent unexpected start-up.
  5. Then, the employee will release all stored energy from the equipment, such as steam or hydraulic pressure lines, or restrain it from moving or activating—as in the case of blocking to prevent

(Continued on page 3)

Lockout/Tagout, cont.

(Continued from page 2)

movement of rotating parts or cylinders.

6. Finally, the authorized employee will test the machine—that is, there should be an attempt to restart it—to make sure the power source has really been isolated and equipment actually de-energized.

Following proper restart procedures after lockout/tagout is as important for safety as the original shutdown. You may be on hand for the restart, so you should know what will happen:

- First, the authorized employee who applied the lock or tag inspects the equipment carefully to make sure nonessential items such as tools or old parts have been removed and that all components are intact.
- Second, that authorized employee clears everyone else away from the equipment and notifies you that all lockout and tagout devices are about to be removed and that the equipment is about to be restarted.
- Next, the authorized employee removes the locks and tags and reactivates any isolation devices that had been deactivated.
- Finally, the authorized employee restarts the machinery or equipment.

"Following proper restart procedures after lockout/tagout is as important for safety as the original shutdown."

OSHA®

Radium Part II: Trying to Close Pandora's Box

"Scientists working on fission and the Manhattan Project discovered new radio-active isotopes with interesting properties"

Until 1945, radium was the best-known radioactive material. It was widely found in consumer and medical products. And, as we saw in Part I of this series, it became notorious for fatally sickening radium watch-dial painters in the 1920s. With few exceptions, oversight of public and workplace safety for radium was mostly a state responsibility, and the federal government's role was limited to such issues as preventing false advertising and regulating mail shipments.

At that time, radioisotopes came from just two limited sources. They were painstakingly isolated from natural ores, as was radium, or created in small batches in particle accelerators. These accelerators fire beams of electrons, protons and other particles at elements to create radioactive isotopes. Today the products of these two processes are called NARM—short for Naturally-Occurring and Accelerator-Produced Radioactive Material.

Scientists working on fission and the Manhattan Project discovered new radioactive isotopes with interesting properties. They soon became widely available to scientists, who found many uses for these products, from medical to basic research. They were under federal control and soon eclipsed the small amounts of radium and other NARM that existed before the war. Cold-War security concerns demanded federal control of nuclear technology and this new radioactive material.

Still, the 1946 Atomic Energy Act avoided intruding on state authority over NARM. It focused the Atomic Energy Commission's oversight on fissionable material such as uranium and thorium and reactor-produced isotopes. The AEC controlled the vast majority of radioactive material.

This division of power didn't disturb existing state authority but made little technical sense. An isotope produced in a reactor would be identical to one found in nature or produced in an accelerator. Moreover, state oversight was uneven.

Radium had lost its luster and fallen into disuse. Safer reactor-produced isotopes and sources with shorter half-lives mostly replaced radium for

(Continued on page 5)

Radium Part II: Trying to Close Pandora's Box, cont.

(Continued from page 4)

medical uses. Radium consumer products disappeared from stores by the 1970s. But products made with radium during its heyday (see Part I) retain their hazard for a long time.

So, from time to time, reports would emerge of products found in someone's attic or office, or contamination found in a building. This prompted the Public Health Service to launch a program to collect and safely dispose of old radium sources.

Beginning in the late 1960s, state radiation control officers called for legislation to give the AEC and later the NRC the power to regulate radium and other NARM. In 1985 the NRC asked to be given authority over NARM waste disposal, but Congress took no action. The status quo remained, in part due to difficulties Congress had deciding on the federal agency best suited to regulate radium and oversee cleanup.

Little changed until the 1990s when terrorism provided a new dimension of concern. Experts worried that untracked or stolen radioactive sources, including radium, could be used in "dirty bombs." Between 1998 and 2003, as part of the U.S. delegation to the International Atomic Energy Agency, the NRC worked with member nations on a code of conduct for radioactive sources. To limit the potential for "malicious acts," the code appealed to each country to develop a national system of regulation for a list of radioactive sources — radium among them.

In the wake of 9/11, support for the IAEA code gained momentum. Congress included a provision in the 2005 Energy Policy Act giving NRC oversight of radium and other sources of NARM. A consensus for federal regulation emerged only when national security issues joined long-standing health concerns.

By Thomas Wellock, NRC Historian Source: Safety BLR

"Congress (had difficulties on) deciding (which) the federal agency (was) best suited to regulate radium and oversee cleanup."

Salmonella Outbreak Home Delivery Foods

A CDC food safety alert regarding a multistate outbreak of *Salmonella* infections has been posted at https://www.cdc.gov/salmonella/outbreaks/homedeliverymeals-09-25/index.html.

- Sixteen people in ten states have gotten sick from the same strain of *Salmonella.* Seven people have been hospitalized and no deaths have been reported.

Metabolic Meals home delivery service removed several meals delivered during the week of July 28, 2025. Please see CDC's food safety alert for more information.

- Sick people in this outbreak reported eating ready-to-eat, home delivery meals made by Metabolic Meals.
- Investigators are working to determine a specific source of contamination.
- Metabolic Meals is collaborating with investigators and has reached out directly to customers who purchased affected meals to inform them of the outbreak.

What You Should Do:

- **Do not eat affected Metabolic Meals products while the investigation is ongoing.** Check your refrigerators and freezers if you ordered these meals and throw them out or contact the company.
- Wash items and surfaces that may have touched the affected ready-to-eat meals using hot soapy water or a dishwasher.
- Call your healthcare provider if you have any of these severe *Salmonella* symptoms:
- Diarrhea and a fever higher than 102°F
- Diarrhea for more than 3 days that is not improving
- Bloody diarrhea
- So much vomiting that you cannot keep liquids down
- Signs of dehydration

About *Salmonella*:

- Most people infected with *Salmonella* develop diarrhea, fever, and stomach cramps 6 hours to 6 days after being exposed to the bacteria.
- The illness usually lasts 4 to 7 days, and most people recover without treatment.
- In some people, the illness may be so severe that the patient is hospitalized.
- Children younger than 5, adults 65 and older, and people with weakened immune systems are more likely to have severe illness.

If you have questions about cases in a particular state, please call that state's health department.

Thank you,

CDC Media Relations

"In some people, the (Salmonella) illness may be so severe that the patient is hospital-ized."

Chemical Spotlight: Turpentine

Turpentine is a flammable, colorless liquid with a distinct odor. It's used as a solvent in paints, resins, and waxes and is also used for making camphor, menthol, and other products.

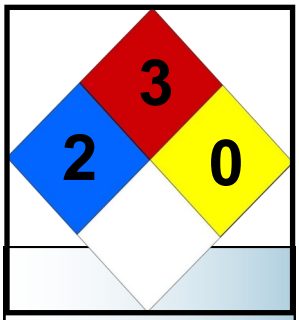
Where possible, automatically pump turpentine from drums or other storage containers to process containers that have been grounded and bonded. Store in tightly closed containers in a cool, well-ventilated area away from combustibles and oxidizing agents. Sources of ignition, such as smoking and open flames, are prohibited where turpentine is used, handled, or stored. Only nonsparking tools and equipment should be used.

If turpentine is spilled or leaked, evacuate everyone from the area, and put on personal protective equipment. Use solvent-resistant gloves and clothing; polyvinyl alcohol is recommended as a protective material. Wear goggles and a face shield. If the potential for overexposure exists, use a National Institute for Occupational Safety and Health (NIOSH)-approved full facepiece respirator with an organic vapor cartridge.

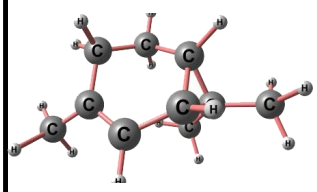
Remove all ignition sources, and prevent further leakage or spillage if it's safe to do so. Absorb liquids in vermiculite, dry sand, or earth, and deposit in sealed containers. If turpentine containers are exposed to fire, use dry chemical, carbon dioxide, or foam extinguishers to put out the fire, and use water spray to keep other containers cool. Ventilate and wash the area after cleanup is complete. Keep turpentine out of confined spaces, such as sewers, because of the possibility of explosion.

It may be necessary to contain and dispose of turpentine as a hazardous waste. Contact your state or regional environmental protection office for specific recommendations.

Source: Safety BLR



"Only nonsparking tools and equipment should be used (when working with turpentine)."

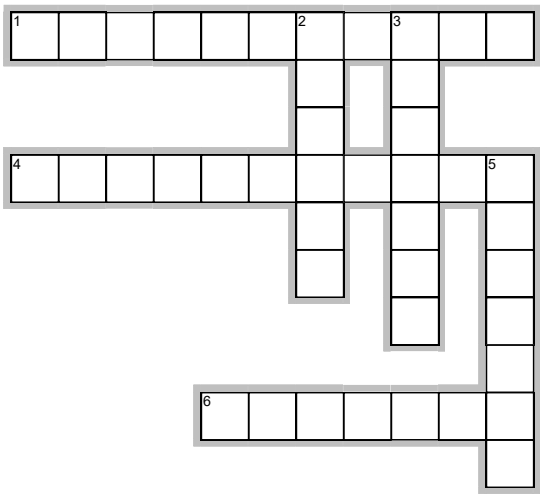


Fun Page

FUN PAGE

Across

1. Radium consumer products _____ from stores by the 1970s.
4. NARM (is) short for Naturally-Occurring and _____-Produced Radioactive Material.
6. It may be necessary to contain and _____ of turpentine as a hazardous waste.



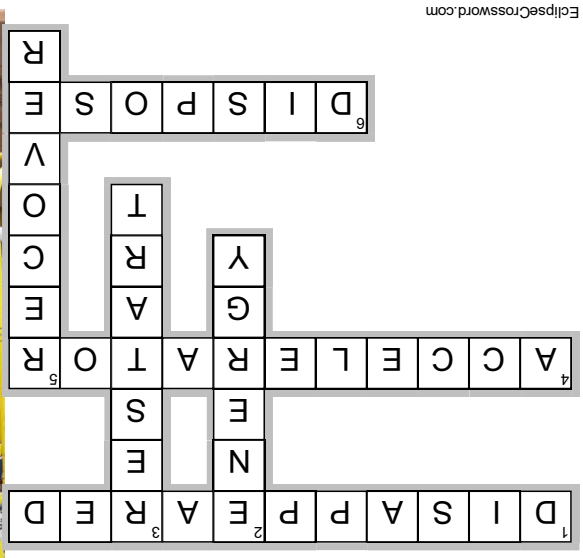
EclipseCrossword.com

Down

2. Lockout/Tagout devices both prevent access to hazardous _____ and warn you to keep away from it.
3. Following proper _____ procedures after lockout/tagout is as important for safety as the original shutdown.
5. The (salmonella) illness usually lasts 4 to 7 days, and most people _____ without treatment.

Safety Fails—DON'T DO THIS!

Puzzle Answers



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Safety Quotes

Don't learn safety by acci-dent.

~Author Unknown

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case.edu/ehs/about/newsletters

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