

Workplace safety update

October 2026

Combustible dust: Preventing dust explosions

Combustible dust is made up of fine solid particles that can catch fire or explode when dispersed in air and exposed to an ignition source. Larger particles settle, while smaller particles can remain suspended. Dust can be generated by handling, crushing, grinding, or processing materials, including:

- Most solid organic materials (such as sugar, flour, grain, wood, etc.)
- Many metals (including magnesium, aluminum, and bronze)
- Some nonmetallic inorganic materials

Some of these materials aren't "normally" combustible, but they can burn or explode if the particles are the right size and in the right concentration. As a rule of thumb, more than **1/32** of an inch of dust (about the thickness of a paperclip) over a large area increases risk. A combination of housekeeping, ventilation, and dust collection keeps accumulation under control.

Combustible dust is dangerous and a silent killer, and it lurks in unseen places, such as rafters, the tops of hoods, and ductwork. All it takes is a handful of fine dust in the air, a contained area, and an **ignition source** to create a potentially deadly environment.

Many dusts are combustible if conditions are "right." Elements needed for a typical fire are fuel, heat, and oxygen. A dust explosion requires two additional elements: dispersion of the dust into the air and confinement within an enclosure (the dust explosion pentagon). **Removing any one of these elements prevents an explosion.**



Additionally, the particles have to be close enough together so that the flame can spread rapidly between them. Wood dust, for example, doesn't need to be as fine as coal dust.

Be alert for signs that combustible dust may be present. Regular monitoring and removal of dust needs to be done not only in primary areas where dust accumulates, such as on production floors, but also in secondary areas that include cable trays, ductwork, and false ceilings, as well as behind equipment and in other hidden areas.

Three basic principles should be applied to prevent dust explosions:

1. Keep dust out of the air as much as possible.
2. Keep dust cleaned up.
3. Keep sources of ignition away.



To prevent dust explosions, a combination of controls should be used.

Engineering controls include:

- Local exhaust ventilation to capture airborne dust at the source.
- Dust containment (ducts and dust collectors) designed to prevent fugitive dust.
- Dust suppression and air filtration systems as appropriate.
- Explosion protection where required (venting, isolation) and use of non-sparking tools and grounding and bonding of equipment.

Administrative controls include:

- Hot work permits for welding, cutting, and similar activities.
- Housekeeping plan with defined frequencies and prohibited practices (no compressed air for cleaning).
- Routine inspections of hidden spaces (above ceilings, on beams, behind equipment, inside ducts).
- Training for all employees on recognition and control of dust hazards.

Personal protective equipment (PPE) includes:

- Respirators when required by exposure assessment and training.
- Wear all required PPE, including safety glasses, gloves, hard hats, hearing protection, respirators or masks, high-visibility apparel, and safety footwear.

Remember: All fine dust is potentially explosive if the right conditions are present. Employees are the first line of defense in preventing fires and explosions. So, if you see hazardous conditions, report them immediately to your supervisor.

Listen up! It's National Protect Your Hearing Month

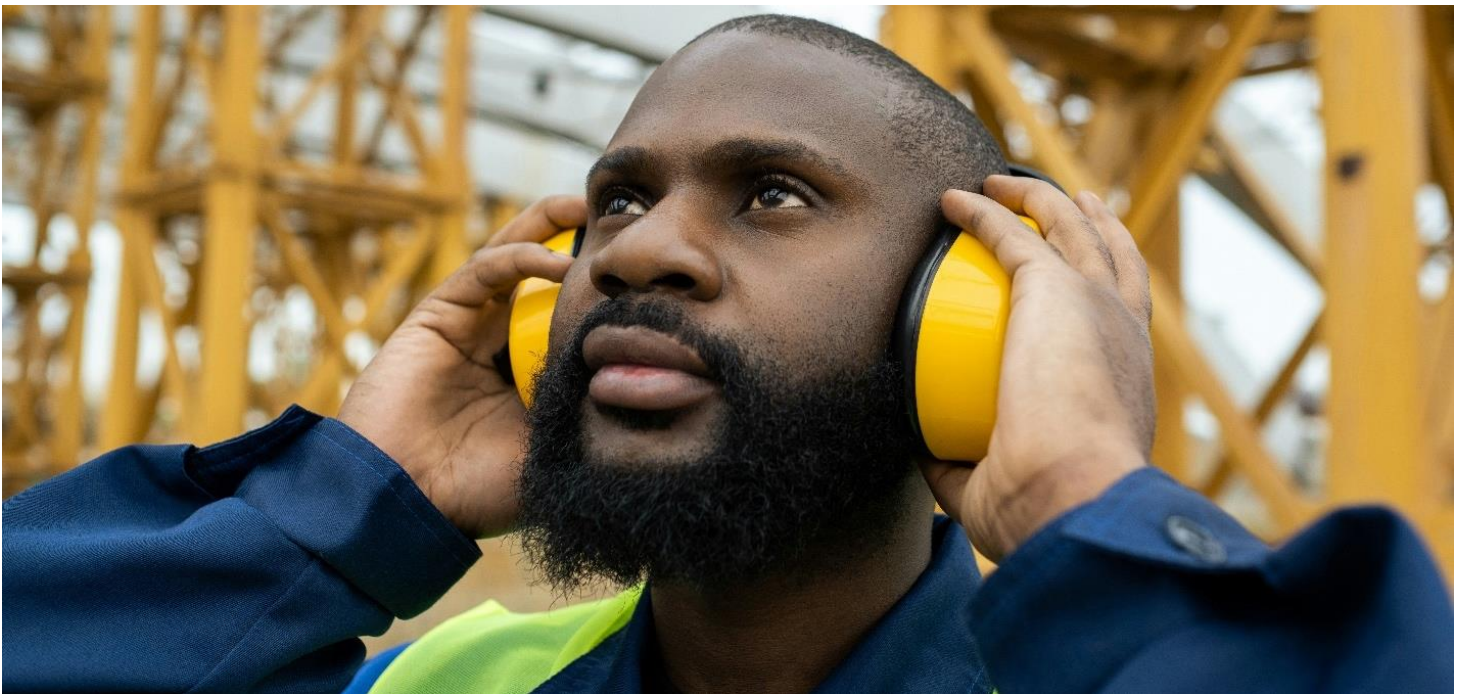
According to the Centers for Disease Control and Prevention (CDC), approximately 22 million employees each year are exposed to workplace noise that could potentially damage their hearing. The National Institute for Occupational Safety and Health (NIOSH) works to prevent work-related hearing loss through its National Protect Your Hearing Month (NPYHM) campaign. Every October, NIOSH reminds employers and workers to take proactive measures to conserve hearing health.

Though some jobsites, like airport tarmacs and construction projects, increase the risk of occupational hearing loss, everyone should be aware of the potential dangers. The Occupational Safety and Health Administration (OSHA) lists three key signs that may indicate noise is a problem at your workplace:

1. You hear ringing or humming in your ears even after you've left work.
2. You experience temporary hearing loss after your workday is finished.
3. You and your coworkers must shout to hear one another at arm's length.

This NPYHM, review the OSHA standards for occupational noise exposure, and assess the controls put in place to prevent hearing loss at your own job.

- Conduct regular noise monitoring.
- Use personal protective equipment, such as earplugs, correctly and consistently.
- Replace noisy equipment with quieter models or use sound-dampening materials.
- Offer or attend training about the importance of hearing conservation programs.



Bottom line: The best hearing protection is prevention. Monitor noise, wear protection, and speak up about hazards.

RISK REFLECTIONS

National Ergonomics Month: Watch for these workplace "hauntings"

By Lisa Orr, CPE, Sr. Human Factors Consultant

October is National Ergonomics Month, led by NIOSH and the Human Factors and Ergonomics Society to raise awareness about preventing work-related musculoskeletal disorders and promoting healthier work habits. While aches and pains may seem minor, poor workstation setup and repetitive movements can lead to discomfort, fatigue, and injury over time.

Watch out for these common ergonomic "hauntings" that may be lurking at your workstation:

The Wrist Witch

The Wrist Witch appears when your keyboard or desk height causes your wrists to bend awkwardly while typing. To avoid unnecessary strain, adjust your desk or chair height so you can keep your wrists in a neutral position and your shoulders relaxed while working.

The Laptop Curse

Working for extended periods on a laptop can lead to the Laptop Curse: neck and upper back discomfort caused by looking down at the screen. Raising your monitor to eye level and using an external keyboard and mouse can help prevent this common ergonomic issue.

The Mouse Creep

This subtle workstation hazard occurs when your mouse gradually moves farther away from your body, encouraging you to reach forward with your arm and shoulder. Keep your keyboard and mouse close, allowing your elbows to rest comfortably beneath your shoulders.

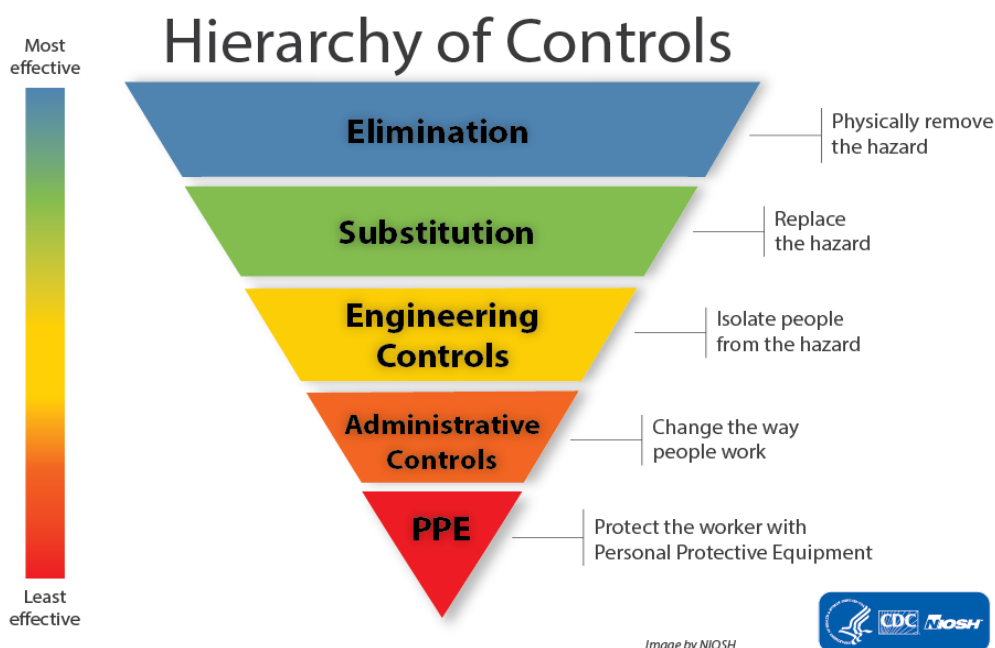
The Spine Squisher

Poor seated posture can invite the Spine Squisher into your workday. Slouching or sitting on the edge of your chair reduces lower back support and can increase discomfort over time. Sit fully back in your chair with your lower back supported and avoid leaning forward for extended periods.

The Foot Dangler

When your feet don't rest comfortably on the floor, the Foot Dangler may be to blame. If needed, use a footrest or other stable support to maintain a comfortable, supported sitting position.

Key takeaway: Small ergonomic adjustments today can help prevent discomfort tomorrow. Take a few minutes to assess your workstation and keep aches and pains from becoming part of your daily routine.



Opioid awareness: Workplace safety starts with prevention

Did you know? Workplace overdose deaths have increased 460% since 2011. Opioids remain a leading contributor to these fatalities, highlighting the importance of injury prevention, safe pain management, and employee support programs.

Work-related injuries such as strains, sprains, overexertion injuries, and slips, trips, and falls are among the most common reasons employees may receive prescription pain medications. Although opioids can be appropriate in some situations, long-term use or high doses can increase the risk of dependence, substance use disorders, and overdose. Safer pain management options may be available and should be discussed with healthcare providers.



Substance use disorders can also impact workplace safety and performance. Opioids may impair concentration, judgment, reaction time, and decision-making, increasing the likelihood of errors and incidents. In addition, untreated substance use disorders can contribute to higher absenteeism, reduced productivity, and increased turnover. Employers can make a positive difference by promoting a supportive workplace culture, encouraging employees to seek help when needed, and providing access to available resources such as Employee Assistance Programs (EAPs), health benefits, and recovery support services. Employees in recovery often demonstrate strong attendance, job performance, and retention rates.

By focusing on injury prevention, safe pain management, and employee support, organizations can help create a safer, healthier, and more productive workplace for everyone.

OSHA corner



Voluntary Protection Programs
An OSHA Cooperative Program

Voluntary Protection Programs

Voluntary Protection Programs (VPP) recognize employers and workers who have strong safety and health programs and low injury rates. In VPP, employers, workers, and OSHA work together to prevent injuries and illnesses through training, hazard prevention, and active involvement from both management and employees. To join, employers apply to OSHA and complete an onsite review by safety and health experts. Participants are reviewed every three to five years and are not subject to OSHA programmed inspections while they keep their VPP status.

[All About VPP | Occupational Safety and Health Administration](#)