

Keeping Workers Safe during Disaster Cleanup and Recovery

Natural disasters can cause widespread flooding and damage to property and infrastructure. Cleanup and recovery activities involve **hazards** that can cause serious injuries or death. OSHA urges employers and workers engaged in cleanup and recovery to be aware of these hazards and how to **protect workers**. These hazards are outlined below along with the proper precautions for employers and workers.

- If you are an employer, worker, homeowner, or member of the public involved in cleanup and recovery activities, it is important that you assess the potential for hazardous conditions and/or exposures *before* you engage in these activities.
- Based on an initial assessment of hazards, employers need to provide workers with the appropriate personal protective equipment, training, and information to safely perform the work.

If you have questions, need information or advice, need assistance, or to report an emergency or to file a complaint, call OSHA at 1-800-321-OSHA (6742). We are here to help. For more information about the hazards listed below, visit OSHA's Hurricane Preparedness and Response website at: www.osha.gov/hurricane.

	Possible Hazards	Protective Measures
Contaminated Floodwaters	• Bacteria and other infectious organisms (from sewage) in water and soil. • Toxic substances from flooded industrial and waste sites. • Mold and fungi in the air. 	• Ventilate enclosed spaces with fresh air. • Assume that floodwater is contaminated unless proven otherwise. • Allow only trained workers with the proper personal protective equipment to clean up toxic chemicals, other hazardous waste, and mold. • Be up-to-date with a tetanus shot (within the last 10 years). • Discard water-damaged and visibly contaminated materials. • Use waterproof boots, latex or rubber gloves and other protective clothing. Consider using special chemical-resistant outer clothing and protective goggles. • Use an N-95 NIOSH-approved disposable respirator, at a minimum, when handling mold-contaminated materials. • Keep an adequate supply of clean water available for drinking and washing.
Downed Power Lines	• Burns and electrocution from contact with energized lines or objects, including tree limbs, in contact with downed power lines.	• Assume that all power lines are live or energized. • Establish and clearly mark a danger zone around downed lines. Stay at least 10 feet from all downed lines. • Allow only properly trained and equipped workers to repair electrical wires.
Tree Trimming and Debris Removal	• Electrocution from contact with power lines or tree limbs in contact with power lines. • Being struck or crushed by falling tree limbs. • Injuries from equipment, such as chain saws and chippers. • Strains and sprains from lifting or moving tree limbs and other debris.	• Contact the utility company to de-energize and ground or shield power lines. All tree trimming/removal within 10 feet of a power line must be done by trained tree trimmers. • Establish and clearly mark a danger zone where tree debris may fall onto workers. Stay alert at all times. • Use work gloves, a hard hat, work boots, hearing protection and eye/face protection. Wear chaps when using a chainsaw. • Watch out for chainsaw kickback. Do not cut with saw tip. • Do not get too close to a chipper. Never reach into an operating chipper. • Use mechanical equipment to lift heavy objects. If not possible, use extra people and proper lifting techniques.

Possible Hazards		Protective Measures
Falls	- Falls from aerial lifts, ladders, roofs, and other elevated work surfaces. - Slippery and uneven working surfaces that can create injuries due to slips, trips and falls.	- Use safe procedures to prevent aerial lift tip-overs. Use a body harness or restraining belt with a lanyard attached to the boom or basket of the lift. - Use proper ladder safety (e.g., set on firm and stable ground, maintain "three-point" contact, do not stand on top rung). - Be aware of wet or slippery surfaces, obstacles, or uneven surfaces on the site.
Portable Generators	- Shocks and electrocution from gas- and diesel-powered generators. - Toxic carbon monoxide (CO) from generator exhaust. - Fires from improper refueling and fuel storage.	- Never run a portable generator inside a house or in an enclosed space like a garage. - Inspect electric cords to ensure they are in good condition and free of defects. Use a ground-fault circuit interrupter (GFCI). - Ensure that spaces where generators are used are properly ventilated. - Shut down the generator before refueling. Never store fuel or the generator indoors.
Work Zones	Transportation incidents (injuries and deaths) in work zones where workers are struck by moving vehicles and mobile equipment.	- Wear high-visibility clothing and headwear compliant with ANSI/ISEA 107-2004. - Use proper traffic controls (i.e., signs, cones, barriers). - Use proper lighting, flaggers and worksite communications. - Make sure that vehicle operators are properly trained. - Always use seat belts and rollover protection.
Construction Activities	- Exposure to asbestos-contaminated materials during the demolition of buildings and structures. - Spaces with limited access, suffocation hazards, or which are confined spaces. - Trenching and excavation accidents (cave-ins). - Risk of back, knee and shoulder injuries from manual lifting and handling of building materials and fallen tree limbs.	- Properly select and use PPE (personal protective equipment) which may include respiratory protection, along with other procedures detailed in 29 CFR 1926.1101. - Do not enter permit-required confined spaces without training and a permit to enter. See 29 CFR 1910.146 for more information. - Prevent cave-ins by benching, sloping, shoring, or shielding the soil. See 29 CFR 1926.651 and 1926.652 for more information. - Use proper lifting techniques and teams of two or more to move bulky or heavy items.

Worker Rights

You have the right to a safe workplace. *The Occupational Safety and Health Act of 1970 (OSH Act)* was passed to prevent workers from being killed or seriously harmed at work. The law requires that employers provide their employees with working conditions that are free of known dangers. OSHA sets and enforces protective workplace safety and health standards. OSHA also provides information, training and assistance to workers and employers. Workers may file a complaint to have OSHA inspect their workplace if they believe that their employer is not following OSHA standards or that there are serious hazards. **Contact OSHA at 1-800-321-OSHA (6742)** if you have questions or want to file a complaint. We will keep your information confidential. We are here to help you.

This is one in a series of informational fact sheets highlighting OSHA programs, policies, or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory-impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.



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