

## COLD WEATHER HAZARDS

Cold weather brings with it a number of risks and hazards: slips and falls from wet floors, stairs and ice, exposure to extreme temperature resulting in frostbite and hypothermia, overexertion when removing snow, carbon monoxide from improperly vented heating systems, vehicles and generators, and winter driving.

### Exposure

Frostbite and hypothermia are the major exposure risks. In frostbite, freezing occurs in the deep layers of skin and tissue. Skin becomes pale, and waxy-white, hard and numb. Frostbite usually affects the fingers, hands, toes, feet, ears and nose.

Hypothermia is more serious and is a medical emergency. Signs of hypothermia include: body temperature drops to or below 95°F; fatigue or drowsiness; uncontrolled shivering; cool bluish skin; slurred speech.



### Slips and Falls

These accidents are among the most frequent causes of injury. They occur more often in wet weather, and especially so during winter, when residual snow and ice keep floor surfaces wet.

Keep floors dry and paths clear. Avoid slipping on wet, icy and slippery walking surfaces.

- Is snow, ice or rainwater removed promptly?
- Is lighting adequate in all work areas, halls and stairways?
- Do employees wear appropriate footwear?
- Do area rugs or mats have non-slip backings?
- Are highly-polished floors slippery?
- Are there any “wet floor” warning signs?

## Protecting Outdoor Workers

- Recognize the environmental and workplace conditions that lead to potential cold-induced illnesses and injuries, and train workers to protect themselves.
- Select proper clothing for cold, wet and windy conditions. Layer clothing to adjust to changing temperatures. Wear a hat and gloves.
- Take frequent short breaks to allow the body to warm up.
- Perform work during the warmest part of the day.
- Use the buddy system (work in pairs).
- Drink warm beverages. Avoid drinks with caffeine or alcohol.

## Driving

Driving is a task that requires constant attention to changing conditions. Many factors cause vehicular accidents, including road conditions, weather and failure to follow basic safe driving rules. Winter drivers encounter unique hazards, including treacherous “black ice” that cannot easily be detected until it’s too late. Especially watch for icy patches on bridges and in the shade.

- Winterize vehicles. Check batteries, tires, windshield wipers, washer fluid and antifreeze. Keep cell phones charged.
- Drivers should stay below posted speed limits in bad weather and keep a safe distance from the next vehicle.
- Be ready to reduce speed in case of sudden stops.
- Keep your lights on. Make sure other vehicles can see you.
- Use safe braking techniques to avoid skidding. Ease off the accelerator. If your vehicle has antilock brakes (ABS), brake firmly and steer. Without ABS, pump the brakes to avoid wheel lock-up. Always gently steer into a skid to regain control of the vehicle.



## Overexertion

When workers perform strenuous tasks in cold weather, such as shoveling snow, overexertion can lead to sore muscles, back strain and possible heart attacks.

Consider the physical condition of anyone doing stressful outdoor work before assigning them. Diabetics, heart patients and persons with vascular and thyroid problems are more susceptible to cold-weather stress.



### Winter Safety Tips

- Use mechanical or motorized equipment to minimize demanding tasks such as shoveling snow; use hand shovels with ergonomic handles.
- Workers must follow all safety guidelines and procedures when clearing or un-jamming powered snow removal equipment.
- Make sure workers know how to perform assigned tasks safely, and use the proper tools (thermally insulated tool handles are helpful in sub-freezing temperatures).
- Employees should know the symptoms of cold-related stress, and monitor themselves – and coworkers. A “buddy system” helps workers keep track of each other.

### Carbon Monoxide

During winter, carbon monoxide (CO) poisoning is more prevalent than at any other time of the year. CO is found in many businesses, and workers can be exposed to it by industrial and chemical processes that lack proper ventilation.

Symptoms of exposure include headache, fatigue, lightheadedness, shortness of breath, nausea and dizziness. High concentrations cause unconsciousness, coma and death. Concentration, length of exposure and rate of breathing determine amount of poisoning. Fifty parts per million (ppm) is the permissible OSHA 8-hour time-weighted average; the NIOSH recommended exposure level is 35 ppm.

The chief cause of exposure is exhaust from combustion engines. Propane-powered forklifts, and cars and trucks idling in unvented areas are likely causes. Proper ventilation and exhaust systems must be provided in such locations.

Unvented heating appliances and even outdoor exposure from improperly exhausted equipment have caused CO poisoning. All portable heaters should be operated according to manufacturer’s specifications, with appropriate ventilation provided.

Gasoline-fueled electrical generators, diesel-powered equipment and similar machines have sickened workers. Generators should be placed outside away from windows or air intakes.

