



# CIRSA HAZARD ALERT

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SAFER TOGETHER

## Hazard Alert - Cold Weather Exposure



While autumn has only just begun, that means winter is not far off and some of your staff could be facing cold weather working conditions very soon. Thus, it's never too early to think about precautions to avoid cold-related injuries to your employees. This Alert discusses cold-stress conditions and best practices that will help reduce the risk of injuries arising from cold weather exposure.

### **COLD STRESS**

Cold Stress occurs by driving down the skin temperature, which results in a reduction of the internal body temperature. Excessive exposure to cold weather can cause illnesses and possibly death if not treated properly. The best defense against cold-related injuries is to limit outside work during cold temperatures and extreme wind chill.

*See page 2 for a Cold Weather Exposure Chart and Wind Chill Index Chart provided by both the Occupational Safety and Health Administration (OSHA 3156 1998) and the National Weather Service/National Oceanic and Atmospheric Administration's (NOAA).*

Examples of cold stress can include frostbite and hypothermia. When working in cold climate conditions, the simple acronym of COLD is useful to identify some concerns and best practices for working during these conditions:

#### **1. COVER**

- Wear hats and/or other Personal Protective Equipment (PPE) coverings to prevent body heat from escaping the head, face, neck, hands, and feet regions of the body.

#### **2. OVEREXERTION**

- Avoiding work activities that cause a person to sweat profusely is critical to prevent cold exposure. The combination of wet clothing and cold weather will cause the body to lose the necessary heat in a rapid manner.

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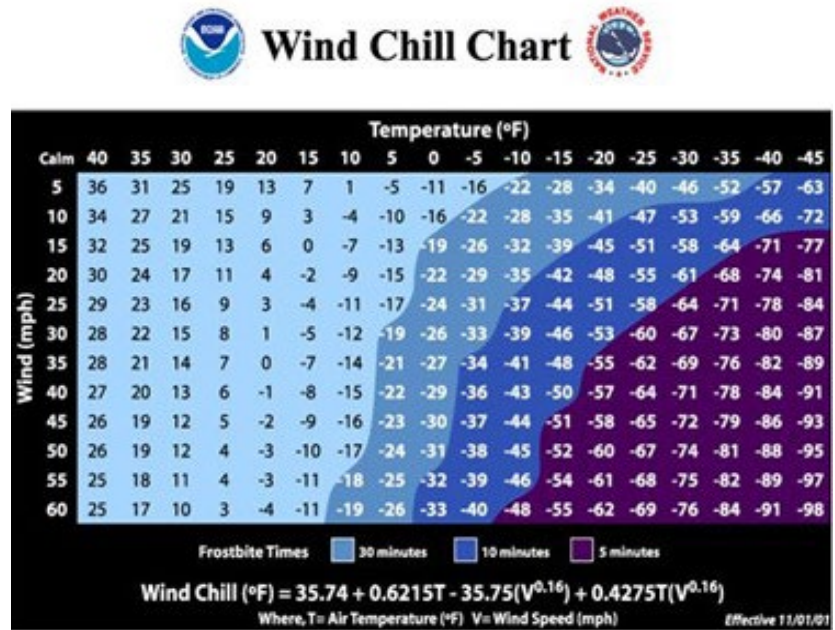
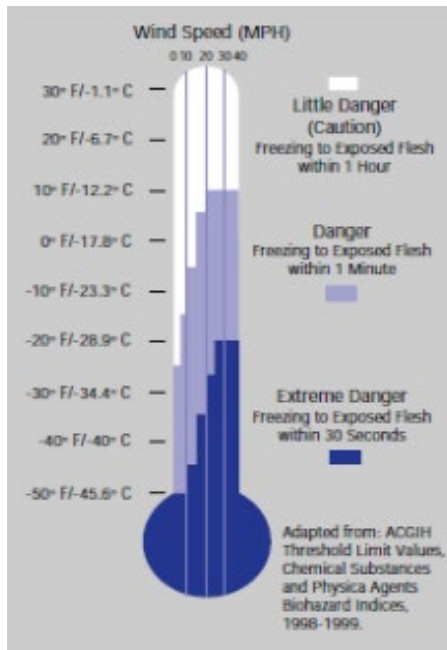
## Cold Weather Exposure (cont.)

### 3. LAYERS

- Wearing multiple layers of loose, layered, and lightweight clothing is also critical to maintaining a constant body heat internal temperature.

### 4. DRY

- Lastly, staying as dry as possible is critical. When excessive perspiration occurs, it's important to remove wet clothing as soon as possible.



## FROSTBITE

Frostbite is an injury caused by exposure to very cold or freezing temperatures. Untreated frost-bitten areas will first become reddened and then become gray or white, particularly on exposed ear lobes, cheeks, and the nose. If left untreated, the skin becomes numb and will feel unusually firm or waxy. Proper treatment for frostbite is to transport the person immediately to a medical facility.

***If immediate medical care is unavailable, then utilize the following steps as follows: '***

- Get the person into a warm place and remove any wet clothing.
- Unless necessary, do not allow the affected person to walk on frostbitten feet or toes, as this may result in additional damage to the person's body.
- Immerse the affected area in warm, not hot, water.
- Do not rub or massage the skin. This can cause more additional damage to the person's body.
- Do not use a heating pad, heat lamp, radiator, stove, fireplace, etc. for warming the person's affected area.

## HYPOTHERMIA

Hypothermia is a medical emergency that occurs when the body loses heat faster than it can produce heat, which can result in a dangerously low body temperature. It occurs when the body temperature passes below 95°F (normal bodily temperature is 98.6°F). When the body temperature drops, the heart, nervous system and other organs cannot work

## *Cold Weather Exposure (cont.)*

properly. If left untreated, hypothermia can eventually lead to complete failure of the heart and respiratory system and can possibly cause death.

Symptoms of hypothermia include constant shivering, slurred speech, stumbling, drowsiness, weak pulse and/or slow breathing. Proper treatment for hypothermia is to transport the person immediately to a medical facility.

***If medical care is not instantly available, then begin warming the person as follows: <sup>2</sup>***

- Get the person indoors into a warm room or shelter immediately.
- Remove any wet clothing.
- Warm the center of the body first (chest, neck, head, and groin) using an electric blanket if available. Never warm the hands or feet extremities. This can result in shock.
- Keep the person dry and wrapped in a warm blanket.
- Do not immerse the person in warm water. Rapid warming can cause heart arrhythmia.

### **TIPS TO PROTECT WORKERS**

Consider a few of the following tips below to protect employees from potential cold weather exposures:

- Learn the signs and symptoms of cold-induced illnesses/injuries and what to do to help the worker.
- Select proper clothing for cold, wet, and windy conditions.
- Take frequent short breaks in warm, dry shelters to allow the body to warm up.
- When possible, perform work during the warmest part of the workday.

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### Resources

1. <https://www.webmd.com/first-aid/frostbite-treatment>
2. <https://www.webmd.com/first-aid/hypothermia-treatment>

[https://www.ars.usda.gov/ARSUserFiles/50620000/HealthandSafety/cold\\_stress.pdf](https://www.ars.usda.gov/ARSUserFiles/50620000/HealthandSafety/cold_stress.pdf)  
<https://www.weather.gov/safety/cold-wind-chill-chart>