

## 437-002-0155 Heat Illness Prevention

(1) **Scope and Application.** This standard applies whenever an employee performs work activities and the heat index (apparent temperature) equals or exceeds 80 degrees Fahrenheit. It does not apply to incidental exposure that exists when an employee is not required to perform covered work activity for more than 15 minutes in any sixty-minute period, nor does it apply to the transportation of employees inside vehicles when they are not otherwise performing work. When any other applicable standard addresses other hazards that may be present, employers must comply with the provisions of that standard and this standard. Where the requirements of one standard are more restrictive than the other, employers must follow the more stringent requirements. Employers subject to other activity-specific standards, such as OAR 437-007-1300 et seq (Wildland Fire Suppression and Prescribed Fire), must comply with the standards to the degree feasible without interfering with the ability of employers and employees to complete the necessary work.

**Exception:** Exposure to heat that is generated only from the work process – such as occurs in foundries – is not subject to this standard. In such cases, employers must follow the requirements of OAR 437-002-0144(2).

**Note:** Based on guidance from federal OSHA, the National Institute for Occupational Safety and Health, and the National Oceanic and Atmospheric Administration's National Weather Service (NOAA/NWS), Oregon OSHA has determined that a workplace hazard exists whenever the heat index reaches 80 degrees (the "caution" level based on NOAA/NWS) and that a more serious hazard exists whenever the heat index exceeds 90 degrees (the "extreme caution" level based on NOAA/NWS).

**Note:** Employees are protected from discrimination or retaliation under ORS 654.062(5). This includes protections for actions against employees for opposing any practice forbidden under the Oregon Safe Employment Act and related statutes and rules (including this rule), making a complaint or causing any proceeding to be instituted under the Oregon Safe Employment Act, or exercising any rights under the law, including those conferred by this rule.

(2) **Definitions.**

- (a) **Acclimatization** - temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it.
- (b) **Drinking water** - Potable water that is suitable to drink and that is cool (66°F - 77°F) or cold (35°F - 65°F). Drinking water packaged as a consumer product and electrolyte-replenishing beverages that do not contain caffeine (for example, sports drinks) are acceptable substitutes, but should not completely replace the required water.

- (c) **Feasibility** – refers to the ability of an employer to implement any requirement in a rule. Oregon OSHA rules never prohibit work. Whether feasibility is mentioned in a provision of the rule or not, if the employer can demonstrate that it is functionally impossible to comply or if doing so would prevent completion of the work, the employer need not comply, but must take any available reasonable alternative steps to protect the employees involved.
  - (d) **Heat Illnesses** - medical conditions resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope and heat stroke.
  - (e) **Heat Index** - The heat index, also known as the apparent temperature, is what the temperature feels like to the human body when relative humidity is combined with the air temperature. The heat index is calculated using equations published by the National Oceanic and Atmospheric Administration's National Weather Service. It can be readily determined using the OSHA-NIOSH Heat Safety Tool App (<https://www.cdc.gov/niosh/topics/heatstress/heatapp.html>) or the online calculator available from the National Weather Service (<https://www.wpc.ncep.noaa.gov/html/heatindex.shtml>). For the purposes of this rule, the heat index in an indoor space can be calculated by substituting the measured indoor temperature in the calculation and leaving the humidity unchanged OR by substituting both the measured indoor temperature and the measured indoor humidity.
  - (f) Relative humidity – the amount of water vapor present in air expressed as a percentage of the amount needed for saturation at the same temperature.
  - (g) Shade – blockage of direct sunlight. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with working air conditioning.
- (3) Access to shade. Employers whose work activities are covered by this rule must establish and maintain one or more shade areas when the heat index temperature in the work area equals or exceeds 80 degrees Fahrenheit.
- (a) Shade may be provided by any natural or artificial means that does not expose employees to unsafe or unhealthy conditions and that does not deter or discourage access or use. A shade area must meet the following:

- (A) The shade area must either be open to the air or provide mechanical ventilation for cooling.
  - (B) The amount of shade present must be at least enough to accommodate the number of employees on recovery or rest periods, so that they can sit in a normal posture fully in the shade.
  - (C) The shade must be located as close as practical to the areas where employees are working.
  - (D) Shade present during meal periods must be large enough to accommodate the number of employees on the meal period that remain onsite.
- (b) When the employer can demonstrate that providing access to shade is not safe or feasible in a particular situation (for example, during high winds or when an employee is walking through range land), employers must identify and implement alternative cooling measures that provide equivalent protection.
- (4) Drinking water. Employers whose work activities are covered by this rule must ensure that an adequate supply of additional drinking water is readily accessible to employees at all times and at no cost when the heat index in the work area equals or exceeds 80 degrees Fahrenheit.
- (a) Employers must supply each employee enough water to enable them to consume 32 ounces per hour.
  - (b) Employers are not required to supply the entire quantity of drinking water needed to be supplied for all employees on a full shift at the beginning of the shift. Employers may begin the shift with smaller quantities of drinking water if effective procedures are established to replenish the water consumed during the shift.
  - (c) Employers must ensure that employees have ample opportunity to drink water supplied under this section.
- (5) Supervisor and employee training. Beginning no later than August 1, 2021, the employer must ensure that all employees, including new employees, supervisory, and non-supervisory employees are trained in the following topics, in a language readily understood, before employees begin work that can reasonably be anticipated to expose employees to a heat index equal to or in excess of 80 degrees Fahrenheit:

- (a) The environmental and personal risk factors for heat illness, as well as the added burden of heat load on the body caused by exertion, clothing, and personal protective equipment.
  - (b) The procedures for complying with the requirements of this standard, including, but not limited to, the employer's responsibility to provide water, provide daily heat index information, shade, cool-down rests, how to report symptoms of heat-related illness, and access to first aid as well as the employees' right to exercise their rights under this standard without fear of retaliation.
  - (c) The concept, importance, and methods of acclimatization.
  - (d) The importance of employees immediately reporting symptoms or signs of heat illness in themselves, or in co-workers.
  - (e) The effects of nonoccupational factors (medications, alcohol, obesity, etc.) on tolerance to occupational heat stress.
  - (f) The different types of heat-related illness, the common signs and symptoms of heat-related illness.
- (6) High Heat Practices. Employers must implement the following additional high heat practices when the ambient heat index exceeds 90 degrees Fahrenheit.
- (a) Employers must ensure that effective communication by voice, observation, or electronic means is maintained so that employees at the work site can contact a supervisor when necessary. An electronic device, such as a cell phone or text messaging device, may be used for this purpose only if reception in the area is reliable.
  - (b) Employers must ensure that employees are observed for alertness and signs and symptoms of heat illness and monitored to determine whether medical attention is necessary by implementing one or more of the following:
    - (A) Regular communication with employees working alone, such as by radio, cellular phone, or other alternative means, or
    - (B) Create a mandatory buddy system, or
    - (C) Implement other equally effective means of observation or communication.

- (c) Employers must designate and equip one or more employees on each worksite as authorized to call for emergency medical services, and must allow other employees to call for emergency services when designated employees are not immediately available (such a practice supplements existing requirements to ensure that emergency medical care is immediately available in all workplaces).
- (d) Employers must ensure that each employee takes a minimum ten-minute preventative cool-down rest period in the shade at least every two hours, regardless of the overall length of the shift.

**Note:** The preventative cool-down rest period required by this paragraph may be provided concurrently with any other meal or rest period required by policy, rule or law if the timing of the preventative cool-down rest period coincides with the otherwise required meal or rest period. Except when such a rest period coincides with the existing unpaid meal break, the preventative cool-down rest period is a work assignment and must be compensated accordingly.

- (7) Emergency Medical Plan. Employers must develop and implement an effective emergency medical plan in compliance with OAR 437-002-0161 when the ambient temperature exceeds the heat index of 90 degrees Fahrenheit. In addition to the requirements of emergency medical plan, the procedures must include and address the following:
  - (a) Responding to signs and symptoms of possible heat illness, including but not limited to first aid measures and how emergency medical services will be provided if a supervisor observes, or any employee reports, any signs or symptoms of heat illness in any employee, the supervisor must take immediate action appropriate to the severity of the illness.
    - (A) If a supervisor observes signs or an employee reports symptoms of heat illness, the employee must be relieved from duty and provided with a sufficient means to reduce body temperature. Examples include, but are not limited to: cooling blankets, cooling vests, and fans.
    - (B) If the signs or symptoms are indicators of severe heat illness (such as, but not limited to, decreased level of consciousness, staggering, vomiting, disorientation, irrational behavior or convulsions), immediately implement the emergency response procedures.
    - (C) An employee exhibiting signs or symptoms of heat illness must be monitored and must not be left alone or sent home without being offered onsite first aid and/or being provided with emergency medical services in accordance with the employer's procedures.

- (b) Contacting emergency medical services and, if necessary and instructed to do so by the medical professionals, transporting employees to a place where they can be reached by an emergency medical provider.
  - (c) Ensuring that, in the event of an emergency, clear and precise directions to the work site is provided for first responders to quickly navigate to the location of the affected worker.
- (8) Acclimatization. Employers must develop and implement effective acclimatization practices when the ambient heat index exceeds 90 degrees Fahrenheit.