

# Occupational Safety and Health Administration (OSHA) Regulation of Employee Exposure to Heat

Updated July 25, 2023

Employees who work outdoors, including those in industries such as construction and agriculture, may be exposed to extreme heat conditions. Similarly, certain indoor work situations—such as bakeries, warehouses, and steel mills—may also expose employees to unsafe heat levels. The lead federal agency that regulates worker safety and health, the Occupational Safety and Health Administration (OSHA), does not have any standards that specifically address outdoor or indoor heat exposure but has published an Advanced Notice of Proposed Rulemaking for a proposed heat exposure standard.

## Heat-Related Illnesses

The National Institute for Occupational Safety and Health (NIOSH) has identified [several illnesses that are related to heat exposure](#), including [heat stroke](#), which can result in permanent disability or death. Other heat-related illnesses include [heat exhaustion](#), [rhabdomyolysis](#), [heat syncope](#), [heat cramps](#), and [heat rash](#). Research published in 2020 by the Centers for Disease Control and Prevention estimates that [between 2004 and 2018 there were an average of 702 annual deaths in the United States due to heat exposure](#), with an average of 415 deaths in which heat exposure was the underlying cause and 287 deaths in which heat exposure was a contributing cause. (This includes employment-related and non-employment-related deaths.) In 2021, the [Bureau of Labor Statistics' Census of Fatal Occupational Injuries](#) reported 36 employment-related deaths due to environmental heat exposure and an average of 40 annual environmental heat exposure employment-related deaths between 2011 and 2021. Since 1972, [NIOSH has recommended that OSHA promulgate a heat exposure standard](#). While [Section 22 of the Occupational Safety and Health Act \(OSH Act, 29 U.S.C. §671\)](#) authorizes NIOSH to develop recommended occupational safety and health standards, OSHA is not required by law to promulgate standards based on these recommendations.

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## OSHA and Heat Exposure

OSHA does not currently have any specific heat exposure standards. On October 27, 2021, OSHA published an [Advanced Notice of Proposed Rulemaking \(ANPRM\) for a potential standard on Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings](#). OSHA solicited public comments on the ANPRM through January 26, 2022, and received over 1,000 comments on the ANPRM.

In 2011, OSHA launched a [heat illness prevention campaign](#) that includes guidance to employers and employees, a smartphone app that provides location-specific information on heat conditions and heat exposure prevention and first aid, and educational materials such as [posters and pamphlets](#) (an example of an OSHA heat illness prevention poster is provided in **Figure 1**) in English, Spanish, and other languages.

In the absence of a specific standard, OSHA may enforce [Section 5\(a\) of the OSH Act \(29 U.S.C. §654\(a\)\)](#), commonly referred to as the “general duty clause,” which requires each employer to provide a workplace that is free of “recognized hazards” causing or likely to cause “death or serious physical harm” to its employees.

As an example of the use of the general duty clause to cite an employer for failing to protect employees from heat exposure, in March 2021, [OSHA cited Valley Produce Harvesting and Hauling Company](#) for a willful violation of the general duty clause by exposing sugar cane harvesting employees in Florida to “excessive heat, elevated temperature working conditions, direct sun radiation and thermal stress” while working outdoors in September 2020. OSHA assessed the maximum allowable civil monetary penalty of \$136,532 for this violation, which was later reduced through an informal settlement with the employer to \$81,919.20.

In April 2022, OSHA began a [National Emphasis Program](#) of enforcement of the general duty clause and compliance assistance to focus on indoor and outdoor heat exposure.

## State Occupational Safety and Health Standards

[Section 18 of the OSH Act \(29 U.S.C. §667\)](#) authorizes states to establish their own occupational safety and health plans and preempt standards established and enforced by OSHA. OSHA must approve state plans if they are “at least as effective” as OSHA’s standards and enforcement. Currently, [21 states and Puerto Rico have state plans that cover all employers, and five states and the U.S. Virgin Islands have state plans that cover only state and local government employers not covered by the OSH Act](#). Three states—[California](#), [Oregon](#), and [Washington](#)—have state occupational safety and health standards that cover outdoor heat exposure. [Minnesota](#) has a state standard that covers indoor heat exposure.

## Legislation to Require OSHA to Promulgate a Heat Exposure Standard

In the 117<sup>th</sup> Congress, H.R. 2193 and S. 1068, both titled as the Asunción Valdivia Heat Illness and Fatality Prevention Act of 2021, would have required OSHA to propose and promulgate a heat exposure standard to cover outdoor and indoor workplaces. Neither bill was enacted into law. This standard would have had to be at least as protective as any state standard and would have had to meet specific requirements outlined in the legislation. Both bills were named after Asunción Valdivia, a California farmworker who died from heat stroke in 2004.

Figure 1. OSHA Health Illness Prevention Campaign Poster



# Prevent Heat Illness at Work

**Outdoor** and **indoor** heat exposure can be dangerous.

## Ways to Protect Yourself and Others

**Ease into Work.** Nearly 3 out of 4 fatalities from heat illness happen during the first week of work.



- ✓ **New and returning** workers need to build tolerance to heat (acclimatize) and take frequent breaks.
- ✓ **Follow the 20% Rule.** On the first day, work no more than 20% of the shift's duration at full intensity in the heat. Increase the duration of time at full intensity by no more than 20% a day until workers are used to working in the heat.



**Drink Cool Water**  
Drink cool water even if you are not thirsty — at least 1 cup every 20 minutes.



**Dress for the Heat**  
Wear a hat and light-colored, loose-fitting, and breathable clothing if possible.



**Take Rest Breaks**  
Take enough time to recover from heat given the temperature, humidity, and conditions.



**Watch Out for Each Other**  
Monitor yourself and others for signs of heat illness.



**Find Shade or a Cool Area**  
Take breaks in a designated shady or cool location.



**If Wearing a Face Covering**  
Change your face covering if it gets wet or soiled. Verbally check on others frequently.

## First Aid for Heat Illness

**The following are signs of a medical emergency!**

- Abnormal thinking or behavior
- Slurred speech
- Seizures
- Loss of consciousness

- 1** » **CALL 911 IMMEDIATELY**
- 2** » **COOL THE WORKER RIGHT AWAY WITH WATER OR ICE**
- 3** » **STAY WITH THE WORKER UNTIL HELP ARRIVES**



**Watch for any other signs of heat illness and act quickly. When in doubt, call 911.**

**If a worker experiences:**

- Headache or nausea
- Weakness or dizziness
- Heavy sweating or hot, dry skin
- Elevated body temperature
- Thirst
- Decreased urine output



**Take these actions:**

- » Give water to drink
- » Remove unnecessary clothing
- » Move to a cooler area
- » Cool with water, ice, or a fan
- » Do not leave alone
- » Seek medical care if needed



**OSHA**<sup>®</sup> Occupational Safety and Health Administration

**For more information: 1-800-321-OSHA (6742)**  
**TTY 1-877-889-5627 [www.osha.gov/heat](http://www.osha.gov/heat)**

Federal law entitles you to a safe workplace. You have the right to speak up about hazards without fear of retaliation. See [www.osha.gov/workers](http://www.osha.gov/workers) for information about how to file a confidential complaint with OSHA and ask for an inspection.

OSHA 3411-058 2021

**Source:** Occupational Safety and Health Administration, <https://www.osha.gov/publications/bytopic/heat-illness-prevention>.

**Notes:** This poster is also available in Spanish and eight other languages.

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