Key Requirements: Maryland Heat Stress Standards

The COMAR 09.12.32 Heat Stress Standards are effective as of September 30, 2024

Maryland Occupational Safety and Health (MOSH) Heat Stress Standards apply to both indoor and outdoor workplaces where employees are exposed to a heat index at or above 80 degrees Fahrenheit. The heat index, or apparent temperature, is an indication of what the temperature feels like to the body while taking into account relative humidity and air temperature. Occupational exposure to heat stress may cause employee injuries or illnesses. The Heat Stress Standards were implemented to protect employees from heat hazards.

Exemptions

Employees who are incidentally exposed to a heat index at or above 80 degrees Fahrenheit for less than 15 minutes per hour are exempt from the standard. Emergency operations and essential services are exempt. The exemption also applies to work areas in buildings, structures, and vehicles that have a mechanical ventilation system or fan that maintains the heat index below 80 degrees.

Heat Index

Heat index shall be monitored by the employer throughout the work shift where employees perform work. Heat index can be monitored using one of the following:

- Direct measurement of temperature and humidity
- National Weather Service or other recognized source
- NIOSH Heat Safety Tool application

Direct measures of temperature and humidity must be used when employees work in buildings and structures that do not have a mechanical ventilation system.

Heat-Related Illness Prevention and Management Plan

Employers shall develop, implement, and maintain an effective Heat-Related Illness Prevention and Management Plan in writing. The Heat-Related Illness Prevention and Management Plan shall contain the following elements:

- How sufficient amounts of drinking water will be provided;
- How employees will be provided sufficient opportunities and encouragement to stay hydrated by drinking water;
- How to recognize the symptoms of heat-related illness, including heat exhaustion and heat stroke;
- How to respond to suspected heat-related illness, including heat exhaustion and heat stroke;
- How employees will be provided with sufficient time and space to rest in shaded or climate-controlled areas to cool off;
- How the employer will implement rest break schedules as necessary;
- How the employer will consider environmental conditions, workload, required clothing, personal protective equipment, and alternative cooling and control measures when determining rest break schedules;

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- How employees will be encouraged to take rest breaks as needed to prevent heat-related illness;
- How employees will be trained on the hazards of heat exposure and the necessary steps to prevent heat-related illness;
- The use and maintenance of alternative cooling and control;
- Measures used to manage heat;
- Procedures for heat acclimatization in accordance with the standards;
- Procedures for high-heat conditions in accordance with the standards; **and**
- The emergency response plan in accordance with the standards.

Employers must make the written plan available and accessible to their employees and MOSH upon request.

Acclimatization
Acclimatization is the body's temporary adaptation to work in heat that occurs as a person is exposed over time. Over 70 percent of heat-related deaths occur during a worker's first week.

An employer shall provide for acclimatization of exposed employees for a period of up to 14 days when employees are newly exposed to heat in the workplace and when an employee returns to work after 7 or more consecutive days of absence.

During employee acclimatization periods the employer is required to monitor employees for signs of heat-related illness through regular communication via:

- Phone or radio; **and/or**
- A buddy system; **or**
- Other effective means of observation.

Acclimatization schedules should comply with one of the following:

- A schedule that gradually increases exposure time over a 5-14 day period, with a maximum 20 percent increase each day; **or**
- A schedule that uses the current National Institute for Occupational Safety and Health's recommendations for acclimatization; **or**
- A schedule that uses a combination of gradual introduction and alternative cooling and control measures that acclimate an employee to the heat.

The schedule shall be put in writing and must consider:

- Acclimatized and unacclimatized employees;
- The environmental conditions and anticipated workload;
- The impact of required clothing and personal protective equipment to the heat burden on employees;
- The personal risk factors that put an employee at a higher risk of heat-related illness;
- Re-acclimatizing employees as necessary, in accordance with the standard; **and**
- The use of alternative cooling and control measures.

Employers are expected to reference MOSH, OSHA, NIOSH or other recognized sources when developing employee acclimatization schedules.

Shade
Shade or shaded areas must block indirect sunlight and be located as close to the work area as practicable. Shaded areas must also:

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- Be outside, open, and exposed to air on at least three sides;
- Prevent contributing heat sources from reducing effectiveness;
- Be sufficiently sized for the number of employees utilizing the shaded area;
- Be arranged in a configuration that allows employees to sit in normal posture; **and**
- Accommodate the removal and storage of personal protective equipment during periods of use.

If creating outdoor shade is demonstrably infeasible or unsafe in the work area, the employer shall implement alternative cooling and control measures that provide equivalent protection from heat.
Alternative cooling measures could include cooling vests, misting stations, job rotation or other controls. Indoor cooling with a mechanical ventilation system instead of outdoor shade is permitted provided that the indoor space meets the standard requirements.

Drinking Water
Drinking water is potable water that is safe to drink and cool in temperature. Ensuring water is suitably cool increases palatability and helps to mitigate dehydration.
Employers must provide:

- Drinking water at no cost to exposed employees as close as practicable to employee work areas.
- At least 32 ounces of drinking water per hour per employee
- Ready access to drinking water at all times.

The total drinking water supply does not need to be distributed at the beginning of an employee's shift, but sufficient quantities must be available at all times while work is being performed.

High Heat Procedures
Employers shall implement high-heat procedures when the heat index reaches or exceeds 90 degrees Fahrenheit in the area where work is being performed. The high-heat procedures shall include a work and rest schedule to protect employees from heat-related illness that is adjusted for environmental conditions, workload, and impact of required clothing or personal protective equipment. Unless an employer can demonstrate effective heat management and protection from heat-related illness through alternative cooling and control measures:

- A minimum rest period of 10 minutes for every 2 hours worked where employees are exposed to a heat index above 90 and below 100 degrees Fahrenheit; **and**, a minimum rest period of 15 minutes for every hour worked where employees are exposed to a heat index above 100 degrees Fahrenheit; **or**
- A rest period as provided for in the current NIOSH recommendations for work and rest schedules to manage heat exposure.

Heat Index	Rest period
Above 90 and below 100 °F	Minimum of 10 minutes every 2 hours
Above 100 °F	Minimum of 15 minutes every hour

If an employer utilizes alternative cooling and control measures in lieu of rest periods, such measures:

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- Shall be readily available and accessible to employees at all times work is being performed;
- Shall be documented in writing; **and**
- Shall not supersede any other requirements in the standards.

MOSH considers rest periods to be a part of the workday. An employer may coincide rest periods with a scheduled rest or meal period. All cool-down rest periods must be taken in shaded areas. Employers may not discourage employees from taking rest breaks as needed to prevent heat-related illnesses.

When high-heat procedures are in effect, an employer shall monitor exposed employees for signs of heat-related illness with regular communication via:
(1) Phone or radio; **and/or**
(2) A buddy system; **or**
(3) Other effective means of observation.

An employer shall make high-heat procedures available in writing in a language and manner that all employees can understand.

Emergency Response
An emergency response plan should include the employer's procedures for:

- Ensuring effective and accessible means of communication at all times at the worksite to enable an employee to contact a supervisor or emergency medical services;
- Responding to signs and symptoms of possible heat-related illness in employees;
- Monitoring and providing care to employees who are exhibiting symptoms of heat-related illness; **and**
- Contacting emergency medical services and, if necessary, transporting employees to a location accessible to emergency medical services.

MOSH expects employers to monitor employees and not leave employees who are exhibiting symptoms alone, or sent home without offering first aid or providing medical treatment. Heat-related illness can mimic other illnesses and prompt treatment is critical.

Training
Employees and supervisors covered by this standard must receive heat stress training:

- Prior to initial heat exposure; **and**
- Annually; **and**
- Immediately following any incident at the worksite involving a suspected or confirmed heat-related illness.

The training must be presented in a language and manner that all employees can understand. The training must cover:

- The work and environmental conditions that affect heat-related illness;
- The personal risk factors that affect heat-related illness;
- The concept, importance, and methods of acclimatization;

- The importance of frequent consumption of water and rest breaks in preventing heat-related illness;
- The types of heat-related illness, signs and symptoms of heat-related illness, and the appropriate first aid and emergency response measures;
- The importance of and procedures for employees immediately reporting to the employer signs and symptoms of heat-related illness; **and**
- The employer's procedures and the requirements for complying with this chapter.

Employers are expected to reference MOSH, OSHA, NIOSH or other recognized sources when developing their training.

Training records shall be kept for one year from the date on which the training occurred. Training records shall include:

- The names of the persons trained;
- The dates of the training sessions; **and**
- A summary or outline of the content of the training sessions.

Training records shall be made available to MOSH upon request.

More information about heat stress can be found at: https://www.labor.maryland.gov/labor/mosh/moshheatstress.shtml

This publication is not intended to be legal interpretation of the provisions of "MOSH" Law or standards or to place any additional requirements on employers or employees.

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