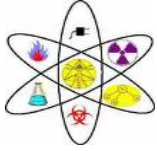




State Center Community College District



Department of Environmental Health and Safety
1525 East Weldon Avenue, Fresno, CA 93704



HEAT ILLNESS PREVENTION PLAN

Revised April 2016

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1.0 INTRODUCTION

1.1 Purpose

The purpose of this Heat Illness Prevention Plan is to meet the requirements pursuant to California Code of Regulations (CCR), Title 8, Section 3395, and also to serve as a supplement to the State Center Community College District's (SCCCD) Injury and Illness Prevention Program (IIPP) and Emergency Response Plan (ERP). The information herein must be used in conjunction with both the IIPP and the ERP.

This Heat Illness Prevention Plan establishes procedures and provides information which is necessary to ensure that members of the SCCC community are knowledgeable in the prevention and recognition of heat stress to ensure their own safety and the safety of others. Members of SCCC to which the Heat Illness Prevention Plan applies to include, but is not limited to all employees and volunteers whose primary job assignment involves working outdoors where they may be exposed to environmental risk factors that could place them at risk for heat-related illnesses.

1.2 Definitions

Acclimatization: Employees returning to work from an illness or an extended break or who are beginning to work in the heat need to be aware that they are especially vulnerable to heat stress until their body has had time to adjust gradually to working in the heat. **It typically takes from 4 to 14 days of regular work for at least 2 hours per day for one's body to adjust to working in heat.** Monitor employees for signs or symptoms of heat stress or illness especially closely during this adjustment period or when a heat wave occurs.

Drinking Plenty of Water: There must be an adequate supply of clean, cool, potable water. **Employees working in the heat should drink at least one quart of water per hour, including at the start of a shift, to replace their body's water lost from sweating. For an eight-hour day, this means employers must provide at least two gallons per person.** Thirst is not a reliable indicator of dehydration; employees often need ongoing encouragement to consume adequate fluids.

Heat Illness: A medical condition resulting from the body's inability to cope with a particular heat load/exposure. High temperatures and humidity can stress the body's ability to cool, making heat-related illnesses a concern during hot weather months. Employees whose duties require them to work outdoors during summer months are exposed to elevated heat and are therefore susceptible to heat illness.

Environmental Risk Factors: Work conditions which create a greater possibility for heat illness to occur including air temperature, relative humidity, radiant heat from sun or other sources, air movement, workload severity, work duration, protective clothing, and personal protective equipment worn by employees. Whenever possible, wear clothing that provides protection from the sun but allows airflow to the body. Remind employees to protect their head and to shade their eyes when working outdoors.

Personal Risk Factors: Employees who are middle age or older, obese, or using certain medications which affect the body's water retention or other physiological responses are at greater risk of heat stress than are other employees. **Consumption of alcohol and caffeine increases dehydration and the risk of heat illness.**

Shade: Blockage of direct sunlight. Canopies, umbrellas and other temporary structures or devices may be used to provide shade. 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 air conditioning. 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.

Temperature: The dry bulb temperature in degrees Fahrenheit obtainable by using a thermometer to measure the outdoor temperature in an area where there is no shade. The temperature measurement must be taken in an area of full sunlight with the bulb or sensor of the thermometer shielded from direct contact by sunlight while taking the direct measurement, e.g. with the hand or other object.

Preventative Recover Period: A period of time to recover from the heat in order to prevent heat illness.

1.3 Provisions of Water

Whenever environmental risk factors for heat illness exist, supervisors are responsible to ensure that fresh, pure, and suitably cool, potable water is available and located as close as practicable to where employees are working, with exceptions if it can be demonstrated that it is infeasible.

Where unlimited drinking water is not immediately available from a plumbed system, supervisors must provide enough water for every employee to be able to drink one quart of water per hour for the entire shift (at least 2 gallons per employee for an 8-hour shift). Smaller quantities of water may be provided at the beginning of the shift if there are effective procedures for replenishing the water supply during the shift as needed.

The following steps will ensure employees have access to drinking water, they are as follows:

- A. Provide access to drinking fountains
- B. Supply water cooler/dispenser and single service cups
- C. Supply sealed one time use water containers

Drinking water and water dispensers shall meet the following requirements:

- All sources of drinking water shall be maintained in a clean and sanitary condition
- Drinking water must always be kept cool. When temperatures exceed 90 degrees Fahrenheit it is recommended that ice be provided to keep the water cool
- Potable drinking water dispensers used to provide water to more than one person shall be equipped with a spigot or faucet
- Any container used to store or dispense drinking water shall be clearly marked as to the nature of its contents and shall not be used for any other purpose
- Dipping or pouring drinking water from containers, such as barrels, pails or tanks, is prohibited regardless of whether or not the containers are fitted with covers
- The use of shared cups, glasses or other vessels for drinking purposes is prohibited
- Non-potable water shall not be used for drinking
- Outlets for non-potable water shall be posed in a manner understandable to all employees that the water is unsafe for drinking

1.4 Access to Shade

Access to Shade

Supervisors are responsible to ensure that employees have access to a shaded area when the temperature reaches 80 degrees. Shaded areas shall accommodate all employees on recovery periods and meal periods and allow employees to sit in the shade without touching each other.

The nearest shaded area must be as close as practicable. Usually this will mean that shade must be reachable within a 2 ½ minute walk, but in no case more than 1/4 –mile or five-minute walk away, whichever is shorter.

Canopies, umbrellas or other temporary structures may be used to provide shade, provided they block direct sunlight. Trees and dense vines can provide shade if the canopy of trees is sufficiently dense to provide substantially complete blockage of direct sunlight. Areas shaded by artificial or mechanical means, such as by a pop-up canopy as opposed to a tree, must provide means for employees to avoid contact with bare soil.

The interior of a vehicle may be used to provide shade if the vehicle is air-conditioned and the air conditioner is operating.

If the National Weather Service, as of 5 p.m. the previous day, forecasts the temperature to be over 80 degrees Fahrenheit, shade structures must be available at the beginning of the shift and present throughout the day. Regardless of predicted temperatures, supervisors must always have capability to provide shade promptly if it is requested by an employee. If the temperature exceeds 90 degrees Fahrenheit, shade must actually be present regardless of the previous day's predicted temperature high.

An employee may opt to take a preventative cool-down rest in the shade to help the body relieve excess heat. It is crucial that workers not be rushed while taking the cool-down rest.

Water should be available in the rest area so that employees are encouraged to drink more water.

An individual employee who takes a preventative cool-down rest shall be (A) monitored and asked if he or she is experiencing symptoms of heat illness; (B) shall be encouraged to remain in the shade; (c) shall not be ordered back to work until any signs or symptoms of heat illness have abated, but in no event less than 5 minutes in addition to the time needed to access the shade.

If any employee exhibits signs or reports symptoms of heat illness while taking a preventative cool-down rest or during a preventative cool-down rest period, the supervisor shall provide appropriate first aid or emergency response in accordance with the emergency response procedures.

2.0 HEAT ILLNESSES

Heat related illnesses are generally avoidable if the employees are trained and the right actions are taken before, during, and after working in either indoor or outdoor hot conditions. High temperatures and humidity can affect the body's ability to cool down, making heat illness a big concern during hot weather months. Every employee whose job duties require them to work in the outdoors during summer months is exposed to elevated heat conditions and therefore is susceptible to heat illness.

Three major forms of heat illnesses are heat cramps, heat exhaustion, and heat stroke. Heat stroke can be a life threatening condition. This document outlines these heat illnesses and how to recognize them, as well as what actions to take to provide first aid until medical care is available.

2.1 Heat Cramps

Description:

Heat cramps are the most common type of heat related injury. **They are the earliest marker that could lead to more serious heat-related illnesses.** Heat cramps are muscle spasms which usually affect the major muscles being stressed including, but not limited to arms, legs, and/or stomach. Sometimes they do not occur until after work. Heat cramps are caused by the loss of electrolytes through heavy sweating, and are exacerbated when water and electrolytes are not replaced quickly enough. Although heat cramps can be quite painful, they usually do not result in permanent damage.

Prevention/First Aid:

Drink plenty of water throughout the day in addition to electrolyte solutions such as Gatorade, Powerade, or diluted fruit juice. If any of the above symptoms occur, stop work, rest in a cool, shaded area and drink plenty of water and electrolyte solutions. **Dial 244-5911 to reach Campus Police or contact your supervisor immediately if a person exhibits any of the above symptoms.**

2.2 Heat Exhaustion

Description:

Heat exhaustion is more serious than heat cramps. It occurs when the body's internal temperature regulating system is over taxed due to the decreased amount of fluid and electrolyte. Heat exhaustion causes the surface blood vessels and capillaries, which originally enlarge to cool the blood, to collapse from loss of body fluids and necessary minerals. This happens when you do not drink enough fluids to replace what you are losing through sweating.

Symptoms Include:

Headache, confusion, heavy sweating, dark-colored urine, intense thirst, dizziness, fatigue, fainting, loss of coordination, nausea, vomiting, diarrhea, impaired judgment, loss of appetite, hyperventilation, tingling in hands and/or feet, anxiety, and weak or rapid pulse.

First Aid:

The employee suffering these symptoms should be moved to a cool location such as a shaded area or air-conditioned building. Have them lie down with their feet slightly elevated. Loosen their clothing, apply cool, wet cloths and/or fan them. Have them drink cool water and **have them checked by medical personnel.** Due to an increased sensitivity to heat illness, personnel effected by heat exhaustion should avoid high-temperatures and strenuous activity until their doctor advises resuming normal activity. They should continue to drink water and electrolyte solutions in order to replace lost body fluids.

If the person, refuses water, vomits, becomes non-responsive, or loses consciousness, it may be a medical emergency. **Call Campus Police at 244-5911 and contact your supervisor immediately.**

2.3 Heat Stroke

Description:

Heat stroke, also known as sun stroke, is the most serious form of heat injury and is a life threatening illness and considered a medical emergency.

Heat stroke occurs when the body is unable to compensate for elevating body temperatures due to the depleted amounts of water and electrolytes. Heat stroke generally occurs after first suffering from heat cramps and/or heat exhaustion, but may occur in the absence of either.

Symptoms Include:

A high body temperature (greater than or equal to 103°F), throbbing headache, dizziness, light-headedness, a distinct absence of sweating despite working in hot temperatures, hot, red, or flushed dry skin, rapid heartbeat, muscle weakness, muscle cramps, rapid and shallow breathing, nausea, vomiting, behavioral changes such as confusion, disorientation, or staggering gait, fainting, seizures, and loss of consciousness..

First Aid:

If you suspect that someone has heat stroke call campus police at 244-5911 immediately. Any delay in seeking emergency medical services can be fatal. It is important to initiate first aid by cooling the individual's body temperature rapidly, while awaiting first responders. First, move the individual to a cool, shady, or air-conditioned environment. Place fans on the individual and dampen their skin with water. Apply cold compresses or ice packs on the armpits, neck, back, and groin area.

3.0 SPECIAL CONDITIONS & EMERGENCY ACTION

3.1 Heat Wave Impact

Heat Wave: A sudden and temporary rise of temperature above the seasonal average and lasting for a prolonged period of time.

For the purposes of this section, a heat wave means any day in which the predicted high temperatures for the day will be at least 80 degrees Fahrenheit and at least ten degrees higher than the average high daily temperature in the preceding five days.

An employee who has been newly assigned to a high heat area shall be closely observed by a supervisor or designee for the first 14 days of the employee's employment.

Heat waves greatly increase the risk of heat illnesses. It may be necessary to adjust employee starting times, work schedules, rest periods, and amounts of fluids consumed.

Take extra precautionary measures during a heat wave, including:

❖ **Increased Vigilance**

- Supervisors/employees watch each other closely & provide feedback
- Avoid working alone - "buddy system"
- Designate person - closely monitor/report employees conditions
- Account for employee whereabouts throughout shift

❖ **Increased Water Consumption**

- Employees should drink water before, during and after work
- Effective replenishment of extra supplies of water
- Encourage employees to talk with their doctor about mineral replacement

❖ **Increased Cooling Measures**

- Use other cooling measures in addition to shade
- Spraying body with water/wiping with wet towels
- Additional/longer breaks in the shade

❖ **Schedule Alterations**

- Start work earlier or later in the evening
- Split-up work shifts - avoid working in hotter parts of the day
- Cut work shifts short or stop work

3.2 Heat Illness Prevention Plan, Emergency Response Plan

If an employee has any symptoms of heat illness, first aid procedures should be initiated without delay.

Any employee exhibiting any heat illness symptoms requires immediate attention. Even the initial symptoms may indicate serious heat exposure. If medical personnel are not immediately available onsite and serious heat illness is suspected, emergency medical personnel should be immediately contacted and on-site first aid undertaken. No employee with symptoms of possible serious

heat illness should be left unattended or sent home without medical assessment and authorization.

All supervisors and employees must be trained to recognize and respond to symptoms of possible heat illness.

If any employee exhibits signs or symptoms of heat stroke emergency medical services must be contacted. Supervisors must be able to provide clear and precise directions to the worksite and should carry cell phones or other means of communication to ensure that emergency services can be called.

Heat-related Illnesses are a medical Emergency!

Common early symptoms of heat illness include headache, muscle cramps and unusual fatigue. More serious signs of heat illness are nausea/vomiting, weakness, rapid pulse, excessive sweating or hot dry skin, seizures and fainting/loss of consciousness.

When a Heat-related Illness is suspected the following actions should be taken immediately:

Call Campus Police for assistance – **Dial 7-8201**. Stay with the victim until professional help arrives!

Move victim to a shaded area, if possible, and lay them down. If this is not possible, every effort should be made to bring a portable shade apparatus to the victim. Loosening fitted clothing can expedite the cooling process.

Provide victim with plenty of cool water to drink

If more aggressive cooling is needed, take action to reduce body heat with damp towels, fans, wetting victim with water, or by applying cold compresses or ice packs on the neck, under the arms, and in the groin area.

3.3 High-Heat Procedures (>95 degrees F)

When the temperature exceeds 95 degrees Fahrenheit the risk of heat illness is significantly greater. Additional precautions and vigilance is necessary to ensure the safety of our employees. The following procedures are to be implemented when the weather is forecast to be 95 degrees or hotter:

1. Supervisors and lead workers shall maintain communication with employees via effective communication methods. Employees at the work site must be able to contact the supervisor when necessary. If a cellular device is utilized for calling or texting, cellular reception must be reliable in the area.

- a. To ensure effective observation/monitoring the following options may be used to observe and monitor workers
 - i. Supervisors and lead workers shall frequently observe employees for alertness and signs or symptoms of heat illness by ensuring a supervisor per 20 or fewer employees
 - ii. Mandatory buddy system,
 - iii. Regular communication with employee
 - iv. Other effective means of observation.
2. Employees shall take a 10 minute preventative cool down rest period every 2 hours.
3. Designate one or more employees on each worksite to call for emergency services when no designated employee is available.
4. Supervisors and lead workers shall frequently observe employees for alertness and signs or symptoms of heat illness.
5. Supervisors and lead workers shall remind employees to drink plenty of water throughout the shift.
6. Pre-shift meetings shall be held before commencement of work in order to review high heat procedures, encouragement of drinking water, and the right to take cool-down rest as necessary.

3.4 Acclimation

Acclimation refers to the physiological adaptation that occurs when an individual accustomed to working in a cool environment is exposed to a hot environment. Any individual may develop signs of significant strain with abnormally high body temperature, pounding heart rate, and other signs of heat stress when beginning to work in a hot environment.

On each succeeding day in the hot area, his or her ability to adjust to the hot environment improves and the signs of discomfort and strain diminish. After a period of week, no difficulty should be expected.

An acclimation period may also be necessary upon return from vacation or other extended periods away from the workplace.

During heat waves and with new employees, supervisors must be extra-vigilant. A heat wave means any day in which the predicted high temperature will be at or above 80 degrees Fahrenheit and at least ten degrees Fahrenheit higher than the average high daily temperature in the preceding five days.

A supervisor or designee must closely observe employees for the first 14 days of the employee's employment.

4.0 PREVENTING HEAT ILLNESS

4.1 Heat Illness Prevention Duties of the SCCCC Department of Environmental Health and Safety

4.1.1 Heat Illness Prevention Awareness Training

All employees of the State Center Community College District are required to participate in Heat Illness Prevention Awareness Training. This training is conducted by the Department of Environmental Health and Safety and covers the following:

Training will review the procedures for complying with the requirements of the Heat Illness Prevention Standard. It will include, but is not limited to the responsibility to provide water, shade, cool-down rests, and access to first aid as well as the employees' right to exercise their rights under this standard without retaliation

The training will review the concept, importance, and methods of acclimation under the procedures in the Heat Illness Prevention Plan.

- **Individual Risk Factors**
- **Heat Illnesses:** Description, treatment, prevention of and in addition that heat illness may progress quickly with mild signs and symptoms to serious life threatening illness:
 - Sunburn
 - Heat Rash (Prickly Heat)
 - Heat Cramps
 - Heat Exhaustion
 - Heat Stroke
 - Dehydration
- **Mental Status Assessment (see Appendix D)**

4.1.2 Heat Stress Monitoring

The State Center Community College District's Department of Environmental Health and Safety may perform heat stress monitoring to determine physiological effects on employees due to heat. Monitoring may be conducted randomly or upon request.

A **Wet Bulb Globe Thermometer**, which provides a **Wet Bulb Globe Temperature (WBGT)**, is a monitoring device commonly used in heat stress mediation.

The **WBGT** is a composite measurement used to estimate the effect of temperature, humidity, and solar radiation on humans. Industrial hygienists, athletes, and the military use the WBGT to determine appropriate exposure levels to high temperatures. It is derived from the following formula:

$$\text{WBGT} = 0.7T_w + 0.2T_g + 0.1T_d$$

Where:

- T_w = Natural wet-bulb temperature (humidity indicator)
- T_g = Globe thermometer temperature (measured with a globe thermometer, also known as a black globe thermometer, to measure solar radiation)
- T_d = Dry bulb air temperature (measured with ordinary thermometer shielded from radiant heat).

4.2 Heat Illness Prevention Duties of Supervisors

As a supervisor of field employees, you play an important role in preventing the onset of heat illness in the employees you supervise and in aiding those who nonetheless get sick from hot weather conditions. Your responsibilities in these regards include the following:

- Hazard Recognition: Working hard and fast in high relative humidity or while wearing protective clothing can pose a risk even if the ambient temperature is only 70°F. The relative humidity levels (as often found in hot areas of California) can pose a risk of heat illness when temperatures approach 80°F. At temperatures above 90°F, especially with heavy work, heat-risk reduction is a major concern.
- Access to Drinking Water: Supervisors shall make readily available fresh, pure, suitable cool and free of charge, potable drinking water for employees. When environmental risk factors for heat illness exist, and in those areas where water is not plumbed or otherwise continuously supplied, water shall be provided in sufficient quantity at the beginning of the work shift to provide a minimum of one quart per employee per hour for drinking for the entire shift (two gallons per eight hour shift). The water shall be located as close as practicable to the areas where employees are working. Employees may begin the shift with smaller quantities of water if they have effective means for replenishment during their shift. The frequent drinking of water shall be encouraged. Employees should also be encouraged to begin drinking water prior to their shift (see Provisions of Water Procedures for further details)
- Access to Shade: Supervisors are responsible to ensure that employees have access to a shaded area when the temperature reaches 80 degrees. Employees suffering from heat illness or believing a preventative recovery

period is needed shall be provided access to an area with shade. Examples of shade areas include offices, shop buildings, covered corridors, air conditioned vehicles, canopies, large umbrellas, etc. Employees should be encouraged to take breaks in shaded areas to recover from the effects of heat as a way to avoid heat illness (See Access to Shade Procedures for further details)

- **Report Heat Illness:** All supervisors and employees must be trained to recognize and respond to symptoms of possible heat illness. Instruct employees to report to you or a co-worker any symptoms of heat illness, such as nausea, dizziness, weakness, or unusual fatigue. Let them know they can rest and cool down in a shaded area if they believe they need to. If any employee exhibits signs or symptoms of heat stroke emergency, medical services must be contacted. Supervisors must be able to provide clear and precise directions to the worksite and should carry cell phones or other means of communication to ensure the emergency services can be called (see Emergency Response Procedures for further details)

4.3 Heat Illness Prevention Duties of Employees

- **Acclimatization:** Condition yourself for working in hot environments. Start slowly then build up to more physical work. Allow your body to adjust over a few days
- **Drink plenty of liquids:** Hydration is a continuous process. Don't wait until you're thirsty! By then, there's a good chance that you're already on your way to being dehydrated. Electrolyte drinks are good for replacing both water and minerals lost through sweating, however water is the preferred rehydration beverage.
- **Drink smart:** Never drink alcohol at work, and avoid or limit caffeinated beverages like coffee and soda as these liquids can have the opposite effect and can actually increase the level of dehydration.
- **Take a break:** especially if you notice you're getting a headache or you start feeling overheated. Assure that adequate water and shade are available at the job site before work is to begin.
- **Wear lightweight, light colored clothing** when working out in the sun.
- **Immediately report all unsafe conditions or concerns to your supervisor or dial 7-8201 for Campus Police.**

APPENDICES

APPENDIX A - California Code of Regulations, Title 8, Sec. 3395

APPENDIX B - Heat Index and Heat Disorders

APPENDIX C - Heat Safety Checklist

APPENDIX D – Mental Assessment

APPENDIX A
California Code of Regulations, Title 8

§3395. Heat Illness Prevention

Heat Illness Info

(a) Scope and Application.

(1) This standard applies to all outdoor places of employment.

EXCEPTION: If an industry is not listed in subsection (a)(2), employers in that industry are not required to comply with subsection (e), High-heat procedures.

(2) List of industries subject to all provisions of this standard, including subsection (e):

(A) Agriculture

(B) Construction

(C) Landscaping

(D) Oil and gas extraction

(E) Transportation or delivery of agricultural products, construction materials or other heavy materials (e.g. furniture, lumber, freight, cargo, cabinets, industrial or commercial materials), except for employment that consists of operating an air-conditioned vehicle and does not include loading or unloading.

(3) This section applies to the control of risk of occurrence of heat illness. This is not intended to exclude the application of other sections of Title 8, including, but not necessarily limited to, sections 1512, 1524, 3203, 3363, 3400, 3439, 3457, 6251, 6512, 6969, 6975, 8420 and 8602(e).

NOTE NO. 1: The measures required here may be integrated into the employer's written Injury and Illness Program required by section 3203, or maintained in a separate document.

NOTE NO. 2: This standard is enforceable by the Division of Occupational Safety and Health pursuant to Labor Code sections 6308 and 6317 and any other statutes conferring enforcement powers upon the Division. It is a violation of Labor Code sections 6310, 6311, and 6312 to discharge or discriminate in any other manner against employees for exercising their rights under this or any other provision offering occupational safety and health protection to employees.

(b) Definitions.

“Acclimatization” means temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within four to fourteen days of regular work for at least two hours per day in the heat.

“Heat Illness” means a serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope and heat stroke.

“Environmental risk factors for heat illness” means working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing and personal protective equipment worn by employees.

“Landscaping” means providing landscape care and maintenance services and/or installing trees, shrubs, plants, lawns, or gardens, or providing these services in

conjunction with the design of landscape plans and/or the construction (i.e., installation) of walkways, retaining walls, decks, fences, ponds, and similar structures, except for employment by an employer who operates a fixed establishment where the work is to be performed and where drinking water is plumbed.

“Oil and gas extraction” means operating and/or developing oil and gas field properties, exploring for crude petroleum or natural gas, mining or extracting of oil or gas or recovering liquid hydrocarbons from oil or gas field gases.

“Personal risk factors for heat illness” means factors such as an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications that affect the body's water retention or other physiological responses to heat.

“Shade” means 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 air conditioning. 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.

“Temperature” means the dry bulb temperature in degrees Fahrenheit obtainable by using a thermometer to measure the outdoor temperature in an area where there is no shade. While the temperature measurement must be taken in an area with full sunlight, the bulb or sensor of the thermometer should be shielded while taking the measurement, e.g., with the hand or some other object, from direct contact by sunlight.

(c) Provision of water. Employees shall have access to potable drinking water meeting the requirements of Sections 1524, 3363, and 3457, as applicable, including but not limited to the requirements that it be fresh, pure, suitably cool, and provided to employees free of charge. The water shall be located as close as practicable to the areas where employees are working. Where drinking water is not plumbed or otherwise continuously supplied, it shall be provided in sufficient quantity at the beginning of the work shift to provide one quart per employee per hour for drinking for the entire shift. Employers may begin the shift with smaller quantities of water if they have effective procedures for replenishment during the shift as needed to allow employees to drink one quart or more per hour. The frequent drinking of water, as described in subsection (h)(1)(C), shall be encouraged.

(d) Access to shade.

(1) Shade shall be present when the temperature exceeds 80 degrees Fahrenheit. When the outdoor temperature in the work area exceeds 80 degrees Fahrenheit, the employer shall have and maintain one or more areas with shade at all times while employees are present that are either open to the air or provided with ventilation or cooling. The amount of shade present shall 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 without having to be in physical contact with each other. The shade shall be located as close as practicable to the areas where employees are working. Subject to the same specifications, the amount of shade present during meal periods shall be at least enough to accommodate the number of employees on the meal period who remain onsite.

(2) Shade shall be available when the temperature does not exceed 80 degrees Fahrenheit. When the outdoor temperature in the work area does not exceed 80 degrees Fahrenheit employers shall either provide shade as per subsection (d)(1) or provide timely access to shade upon an employee's request.

(3) Employees shall be allowed and encouraged to take a preventative cool-down rest in the shade when they feel the need to do so to protect themselves from overheating. Such access to shade shall be permitted at all times. An individual employee who takes a preventative cool-down rest (A) shall be monitored and asked if he or she is experiencing symptoms of heat illness; (B) shall be encouraged to remain in the shade; and (C) shall not be ordered back to work until any signs or symptoms of heat illness have abated, but in no event less than 5 minutes in addition to the time needed to access the shade.

(4) If an employee exhibits signs or reports symptoms of heat illness while taking a preventative cool-down rest or during a preventative cool-down rest period, the employer shall provide appropriate first aid or emergency response according to subsection (f) of this section.

Exceptions to subsections (d)(1) and (d)(2):

(1) Where the employer can demonstrate that it is infeasible or unsafe to have a shade structure, or otherwise to have shade present on a continuous basis, the employer may utilize alternative procedures for providing access to shade if the alternative procedures provide equivalent protection.

(2) Except for employers in the agricultural industry, cooling measures other than shade (e.g., use of misting machines) may be provided in lieu of shade if the employer can demonstrate that these measures are at least as effective as shade in allowing employees to cool.

(e) High-heat procedures. The employer shall implement high-heat procedures when the temperature equals or exceeds 95 degrees Fahrenheit. These procedures shall include the following to the extent practicable:

(1) Ensuring 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.

(2) Observing employees for alertness and signs or symptoms of heat illness. The employer shall ensure effective employee observation/monitoring by implementing one or more of the following:

(A) Supervisor or designee observation of 20 or fewer employees, or

(B) Mandatory buddy system, or

(C) Regular communication with sole employee such as by radio or cellular phone, or

(D) Other effective means of observation.

(3) Designating one or more employees on each worksite as authorized to call for emergency medical services, and allowing other employees to call for emergency services when no designated employee is available.

(4) Reminding employees throughout the work shift to drink plenty of water.

(5) Pre-shift meetings before the commencement of work to review the high heat procedures, encourage employees to drink plenty of water, and remind employees of their right to take a cool-down rest when necessary.

(6) For employees employed in agriculture, the following shall also apply:

When temperatures reach 95 degrees or above, the employer shall ensure that the employee takes a minimum ten minute net preventative cool-down rest period every two hours. The preventative cool-down rest period required by this paragraph may be provided concurrently with any other meal or rest period required by Industrial Welfare Commission Order No. 14 (8 CCR 11140) if the timing of the preventative cool-down rest period coincides with a required meal or rest period thus resulting in no additional preventative cool-down rest period required in an eight hour workday. If the workday will extend beyond eight hours, then an additional preventative cool-down rest period will be required at the conclusion of the eighth hour of work; and if the workday extends beyond ten hours, then another preventative cool-down rest period will be required at the conclusion of the tenth hour and so on. For purposes of this section, preventative cool-down rest period has the same meaning as “recovery period” in Labor Code Section 226.7(a).

(f) Emergency Response Procedures. The Employer shall implement effective emergency response procedures including:

(1) Ensuring that effective communication by voice, observation, or electronic means is maintained so that employees at the work site can contact a supervisor or emergency medical services 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. If an electronic device will not furnish reliable communication in the work area, the employer will ensure a means of summoning emergency medical services.

(2) 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.

(A) If a supervisor observes, or any employee reports, any signs or symptoms of heat illness in any employee, the supervisor shall take immediate action commensurate with the severity of the illness.

(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), the employer must implement emergency response procedures.

(C) An employee exhibiting signs or symptoms of heat illness shall be monitored and shall 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.

(3) Contacting emergency medical services and, if necessary, transporting employees to a place where they can be reached by an emergency medical provider.

(4) Ensuring that, in the event of an emergency, clear and precise directions to the work site can and will be provided as needed to emergency responders.

(g) Acclimatization.

(1) All employees shall be closely observed by a supervisor or designee during a heat wave. For purposes of this section only, “heat wave” means any day in which the predicted high temperature for the day will be at least 80 degrees Fahrenheit and at least ten degrees Fahrenheit higher than the average high daily temperature in the preceding five days.

(2) An employee who has been newly assigned to a high heat area shall be closely observed by a supervisor or designee for the first 14 days of the employee's employment.

(h) Training.

(1) Employee training. Effective training in the following topics shall be provided to each supervisory and non-supervisory employee before the employee begins work that should reasonably be anticipated to result in exposure to the risk of heat illness:

(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 employer's procedures for complying with the requirements of this standard, including, but not limited to, the employer's responsibility to provide water, shade, cool-down rests, and access to first aid as well as the employees' right to exercise their rights under this standard without retaliation.

(C) The importance of frequent consumption of small quantities of water, up to 4 cups per hour, when the work environment is hot and employees are likely to be sweating more than usual in the performance of their duties.

(D) The concept, importance, and methods of acclimatization pursuant to the employer's procedures under subsection (i)(4).

(E) The different types of heat illness, the common signs and symptoms of heat illness, and appropriate first aid and/or emergency responses to the different types of heat illness, and in addition, that heat illness may progress quickly from mild symptoms and signs to serious and life threatening illness.

(F) The importance to employees of immediately reporting to the employer, directly or through the employee's supervisor, symptoms or signs of heat illness in themselves, or in co-workers.

(G) The employer's procedures for responding to signs or symptoms of possible heat illness, including how emergency medical services will be provided should they become necessary.

(H) The employer's procedures for contacting emergency medical services, and if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider.

(I) The employer's procedures for ensuring that, in the event of an emergency, clear and precise directions to the work site can and will be provided as needed to emergency responders. These procedures shall include designating a person to be available to ensure that emergency procedures are invoked when appropriate.

(2) Supervisor training. Prior to supervising employees performing work that should reasonably be anticipated to result in exposure to the risk of heat illness effective training on the following topics shall be provided to the supervisor:

(A) The information required to be provided by section (h)(1) above.

(B) The procedures the supervisor is to follow to implement the applicable provisions in this section.

(C) The procedures the supervisor is to follow when an employee exhibits signs or reports symptoms consistent with possible heat illness, including emergency response procedures.

(D) How to monitor weather reports and how to respond to hot weather advisories.

(i) Heat Illness Prevention Plan. The employer shall establish, implement, and maintain, an effective heat illness prevention plan. The plan shall be in writing in both English and the language understood by the majority of the employees and shall be made available at the worksite to employees and to representatives of the Division upon request. The Heat

Illness Prevention Plan may be included as part of the employer's Illness and Injury Prevention Program required by section 3203, and shall, at a minimum, contain:

- (1) Procedures for the provision of water and access to shade.
- (2) The high heat procedures referred to in subsection (e).
- (3) Emergency Response Procedures in accordance with subsection (f).
- (4) Acclimatization methods and procedures in accordance with subsection (g).

Note: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

HISTORY

1. New section filed 8-22-2005 as an emergency; operative 8-22-2005 (Register 2005, No. 34). A Certificate of Compliance must be transmitted to OAL by 12-20-2005 or emergency language will be repealed by operation of law on the following day.
2. New section refiled 12-20-2005 as an emergency; operative 12-20-2005 (Register 2005, No. 51). A Certificate of Compliance must be transmitted to OAL by 4-19-2006 or emergency language will be repealed by operation of law on the following day.
3. New section refiled 4-19-2006 as an emergency; operative 4-19-2006 (Register 2006, No. 16). A Certificate of Compliance must be transmitted to OAL by 8-17-2006 or emergency language will be repealed by operation of law on the following day.
4. Certificate of Compliance as to 4-19-2006 order, including amendment of section heading and section, transmitted to OAL 6-16-2006 and filed 7-27-2006 (Register 2006, No. 30).
5. Amendment filed 10-5-2010; operative 11-4-2010 (Register 2010, No. 41).
6. Amendment filed 4-3-2015; operative 5-1-2015 pursuant to Government Code section 11343.4(b)(3) (Register 2015, No. 14).

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APPENDIX B

Heat Index and Heat Disorders

Temperature vs. Relative Humidity

How to read the chart: find the temperature on the left hand side, then move to the right until you find the column for the approximate relative humidity. That number will be the temperature that it will "feel" like.

Example: A temperature of 95 and relative humidity of 50% will "feel" like 107 degrees. Add up to 15 degrees if in the direct sun.

	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%
115	111	115	120	127	135	143	151								
110	105	108	112	117	123	130	137	143	151						
105	100	102	105	109	113	118	123	129	135	142	149				
100	95	97	99	101	104	107	110	115	120	126	132	136	144		
95	90	91	93	94	96	98	101	104	107	110	114	119	124	130	136
90	85	86	87	88	90	91	93	95	96	98	100	102	106	109	113

Heat Index	Possible heat disorders for people in higher risk groups
130 or higher	Heatstroke/sunstroke highly likely with continued exposure.
105-130	Sunstroke, heat cramps or heat exhaustion likely, and heat stroke possible with prolonged exposure and/or physical activity.
90-105	Sunstroke, heat cramps and heat exhaustion possible with prolonged exposure and/or physical activity.
80-90	Fatigue possible with prolonged exposure and/or physical activity.

APPENDIX C

Heat Safety Checklist

In extreme cases, heat illness can be deadly when the body is unable to cool itself by sweating. Use the following checklist as a guide to assess heat stress in your workplace.

Recognize the hazard

Yes No

☐ ☐ Does the employer have an Injury and Illness Prevention Program (IIPP)?

☐ ☐ Have tasks, which require exposure to heat, been identified?

☐ ☐ Is work done outdoors in hot temperatures?

Which

jobs? _____

How hot is

it? _____

☐ ☐ Is heat a problem all day?

☐ ☐ Is heat a problem part of the day?

☐ ☐ Is work done in hot indoor areas?

Which

jobs? _____

Training

Workers have been trained in:

Yes No

☐ ☐ Precautions to prevent heat illnesses (acclimatization, drinking fluids, breaks)

☐ ☐ How to recognize signs and symptoms of heat cramps, exhaustion, stroke.

☐ ☐ Effect of alcohol and drugs on the risk of heat illness.

☐ ☐ Proper use of protective clothing and equipment.

☐ ☐ Procedures for reporting symptoms of heat illness in themselves or co-workers.

☐ ☐ Procedures for responding to symptoms of possible heat illness.

☐ ☐ Procedures for contacting emergency medical services

Work Practices

Yes No

☐ ☐ Monitoring air temperature and humidity

☐ ☐ Monitoring worker's temperature with a personal heat stress instrument

☐ ☐ Workers are rotated in hot, strenuous jobs to minimize heat stress

APPENDIX D

Mental Assessment

If an employee is suspected of suffering from heat-related illness, a mental assessment may prove useful in determining the victim's state of mind and the seriousness of the illness.

Ask the victim questions such as:

- ***What is your name?***
- ***What month is it? What year is it?***
- ***Where are we/you?***
- ***What were you doing before you became ill?***

When medical help arrives promptly inform professionals of mental assessment results.