



Safety and Health Tailboard

TOPIC: Heat Illness Prevention

Topic Overview / Key Messages:

Hot weather can affect Company employees working outside or in high temperature buildings such as power plants and compressor stations. It is important that employees are aware of the dangers of heat stress, are able to recognize the warning signs and learn to avoid the behaviors and actions that can result in heat stress.

Risks, Exposures and Preventative Steps to Take:

Seven environmental factors affect the amount of heat stress a worker faces in a hot work area:

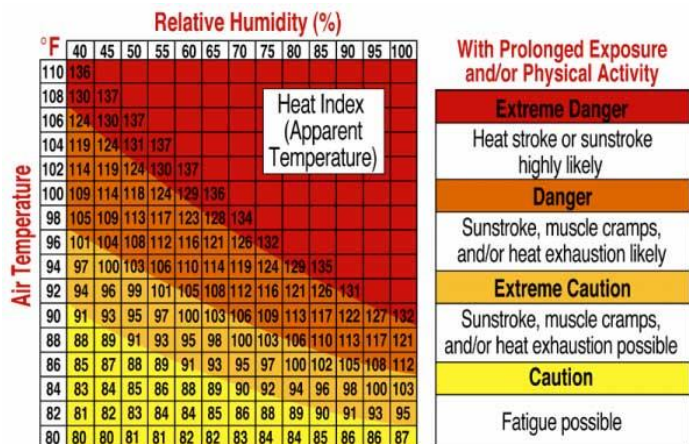
- Air temperature
- Air movement
- Workload and duration
- Direct sunlight
- Personal Protective equipment worn by employees
- Conductive heat sources such as the ground
- Relative humidity

Personal characteristics such as age, weight, fitness, medical condition and acclimatization to the heat, affect the level of stress caused by heat.

When it comes to heat illness, prevention is the best medicine

All heat illnesses are preventable as long as you take steps to protect yourself and others:

- **Stay hydrated** – In hot weather, you need to drink 16-32oz (2-4 glasses) of water per hour to replenish the fluids lost through sweat. Drink often, even if you don't feel thirsty.
- **Stay cool** – Wear cool, loose-fitting clothing when possible. Take breaks in a in a shaded or air conditioned area. It's essential to take preventative cool-down rests in high heat environments.
- **Observe** – Workers in high heat environments need to be closely monitored for signs of heat illness. If you see signs and symptoms of heat illness, ensure that the employee receives first aid and emergency medical services (if needed) as quickly as possible



There are five types of heat illnesses:

- **Heat Rash** is a rash of bumps or blisters caused when sweat ducts (pores) get blocked, and perspiration gets trapped under your skin.
- **Heat Cramps** are painful cramps that can occur when you overexert yourself in hot weather.
- **Heat Exhaustion** is a feeling of fatigue, faintness, dizziness or nausea that can happen when you're working hard in hot weather. Heat exhaustion can lead to more serious issues.
- **Heat Syncope** is fainting as a result of overheating.
- **Heat Stroke** – This is the most serious type of heat illness and can lead to death if not treated right away. People suffering heat stroke can no longer sweat to cool themselves down.



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There are specific requirements we must follow to prevent heat illness:

All employees working outdoors and in conditions above 80 degrees Fahrenheit are at risk for heat illness. Insure your employees have the following required necessities:

<u>Water</u>	✓ Fresh, suitably cool and potable ✓ Close to jobsite	✓ One Quart (or more) per hour per employee ✓ Reminders to drink plenty of water throughout shift
<u>Weather Monitoring</u>	✓ Supervisors must monitor conditions at the site to insure shade/heat requirements are met ✓ <u>Temperature Monitoring</u> (Link)	✓ Or A dry bulb thermometer at the work site
<u>Shade</u>	✓ One or more areas of shade that are open to the air or provided with ventilation or cooling ✓ Must accommodate all employees on site to sit in full posture without having physical contact ✓ Located close to the job site ✓ Readily (on-hand) available even if the temperatures have not met 80 degrees Fahrenheit ✓ Encourage cool-down breaks in the shade and monitor employee symptoms of heat illness	
<u>High Heat</u> (95 degrees Fahrenheit + requirements)	✓ Supervisors must ensure effective communication by voice, observation or electronics so employees can make contact if necessary ✓ Supervisors must ensure effective observation and monitoring of employees (one or more of the following): ○ Supervisor or designee observation of 20 or fewer employees ○ <u>Mandatory buddy system</u> ○ Regular communication with sole-employee (by radio or cell phone) ○ Other effective means of observation ✓ <u>Designate one or more employees at worksite to call emergency medical services</u> ✓ <u>Remind employees throughout shift to drink water</u> ✓ <u>Conduct pre-shift meetings and include:</u> ○ <u>Review of high heat procedures</u> ○ <u>Drinking plenty of water</u> ○ <u>Encourage frequent cool-down rest periods</u>	
<u>Emergency Response</u> <u>Procedures</u>	✓ <u>Supervisors must ensure effective communication by voice, observation or electronics so employees can make contact if necessary</u> ✓ Respond to signs and symptoms of possible heat illness ✓ Contacting emergency medical services ✓ <u>Clear and precise directions are provided to EMS to the work site if called</u>	
<u>Training</u>	✓ Employees must receive heat illness training before the exposure to risks ✓ PG&E's procedure to comply with the heat illness exposures.	



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Heat Illness Emergency Response

The following are the signs, symptoms and appropriate treatments for the different types of heat illnesses.

Illness	Signs and Symptoms	Treatment
Heat Rash	• A raised, blister-like red rash on the skin.	• Remove wet clothing • Dry the affected area
Heat Cramps	• Painful muscle spasms • May occur during or after strenuous activity	• Slowly drink water • Gently stretch the muscle for 20 seconds, followed by massage
Heat Syncope (Fainting)	• Sweating • Pale or flushed complexion • Sudden but brief loss of consciousness • Body temperature of 104°F or more	• Move to a cool area • Gently move victim to supported sitting or lying on back position • Elevate legs • Loosen/remove excess clothing • Slowly drink water (when conscious)
Heat Exhaustion	• Weakness/fatigue, giddiness, disorientation, irrational behavior • Nausea • Headache • Pale or flushed complexion • Weak, rapid pulse • Dilated pupils • Unable to perform simple tasks	• Rest in a cool place • Drink water (if able) • Loosen/remove excess clothing • Contact emergency medical services (EMS) if: ○ Worker vomits or cannot drink water ○ Worker loses consciousness
Heat Stroke	• No longer able to sweat • Confusion, delirium • Loss of consciousness • Hot, dry skin with red, mottled or blue complexion • Body temperature of 105°F or more • Rapid, shallow breathing • Weak, rapid pulse • Small pupils	• Contact EMS immediately • Move to a cool area • Soak clothing with cool water • Place ice/cold packs on head, armpits, neck • Fan the victim

NOTE: Prior to contacting EMS, employees must be prepared to calmly provide details on their location (address, GPS location, room number, etc.) and the symptoms the affected employee is experiencing.



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Available Cooling Materials:

Description	Part #	
OCCUNOMIX 940-018 - MIRACOOOL COOLING BANDANA NAVY BLUE	OCC94001	
OCCUNOMIX 940B-24 - MIRACOOOL COOLING BANDANA ASSORTED COLORS (24 EACH PER PACK) OCCUNOMIX 940-BDN - MIRACOOOL COOLING BANDANA BLUE DENIM OCCUNOMIX 940-HVO - MIRACOOOL COOLING BANDANA HI-VIZ ORANGE	OCC940ASST OCC940BDN OCC940OR	
OCCUNOMIX 955-018 - MIRACOOOL COOLING HEADBAND DELUXE NAVY BLUE	200954	
OCCUNOMIX 968-018 - MIRACOOOL COOLING PAD FOR HARD HAT NAVY BLUE	OCC968	
MAGID PF6200 - COOLING VEST THERMAL WEAR BLUE WITH INSERTS	TMTT1912212OR	
ALLEGRO 8405-54 - COOL OFF COOLING BAND 38" LONG FOR NECK OR HEAD WEAR AMERICAN FLAG PATTERN	ALG037840554	
COOLING VEST KIT PGE L/XL INCLUDES VEST AND COOLING INSERTS	TMTT1812201	
ALLEGRO 8406-02 - COOLING NECK SHADE FLAME/HEAT RETARDANT	ALG840602	
OCCUNOMIX PC-VV-FR-NB - COOLING VEST WITH INSERT	OCCPCVVFRNB	
OBERON CV-ARC-TALL - ARC FLASH COOLING VEST SIZE TALL	204001	

Procedures, Standards and Resource Links:

[Heat Illness Prevention Standard SAFE-2001S](#)
[Heat 80-94 degrees Fahrenheit Tailboard](#)

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[Heat Illness Emergency Response](#)
[High Heat 95 degrees Fahrenheit and above Tailboard](#)