

Sample Written Heat Illness Prevention Plan

(Revised March of 2024)

Company Name: _____

Purpose

The purpose of this plan is to protect our employees from the hazards of hot working environments. Work activities that could potentially expose our employees to these hazards include:

Scope

This plan implements efficient and safe work practices that will prevent both indoor and outdoor heat-related illnesses among employees at our workplace. It will be used as part of training for new employees and for the annual refresher training of employees.

Background

Heat-related illnesses can happen if workplace activities in a hot environment overwhelm the body's ability to cool itself. This becomes more likely if any of the risk factors are present. Examples include working in a hot environment without adequate access to water for rehydration, working in protective gear that does not allow air circulation across the skin, or working where the humidity is too high for sweat to evaporate.

Risk Factors

The following are environmental risk factors for heat illness:

- Air temperature above 90 degrees Fahrenheit
- Relative humidity above 40 percent
- Radiant heat from the sun and other sources
- Conductive heat sources such as dark-colored work surfaces
- Lack of air movement
- Physical effort needed for the work
- Use of nonbreathable protective clothing and other personal protective equipment (PPE)

The following are personal risk factors for heat illness:

- Lack of acclimation to warmer temperatures
- Poor general health
- Dehydration
- Alcohol consumption
- Caffeine consumption
- Previous heat-related illness
- Use of prescription medications that affect the body's water retention or other physiological responses to heat such as beta blockers, diuretics, antihistamines, tranquilizers, and antipsychotics

Heat-Related Illnesses

- Heat rash is the most common health problem in hot work environments. It is caused by sweating and looks like a red cluster of pimples or small blisters. Heat rash usually appears on parts of the body that overlap or rub other parts of the body, such as in the groin area, under the arms or breasts, and in knee or elbow creases. If an employee has symptoms of heat rash, provide a cooler, less humid work environment, if possible. Advise the employee to keep the area dry and not to use ointments and creams that make the skin warm or moist, which can make the rash worse.
- Heat exhaustion can best be prevented by being aware of one's physical limits in hazardous environments on hot, humid days. The most important factor is to drink enough clear fluids (especially water, not alcohol or caffeine) to replace those lost to perspiration. Signs and symptoms of heat exhaustion typically include:
 - Profuse sweating
 - Weakness and fatigue
 - Nausea and vomiting
 - Muscle cramps (associated with dehydration)
 - Headache
 - Light-headedness or fainting; fainting or loss of consciousness is potentially serious and should be treated as a medical emergency.
- When you recognize that an employee has symptoms of heat exhaustion, you must intervene; stop the activity, and move the employee to a cooler environment. Cooling off and rehydrating with water (or electrolyte replacing sports drinks) is the cornerstone of treatment for heat exhaustion. If the employee resumes work before their core temperature returns to normal levels, symptoms may quickly return.
- If there is no intervention and the body's temperature regulation fails, heat exhaustion can rapidly progress to heat stroke, a life-threatening condition.
- Heat stroke requires an immediate emergency medical response. The person may stop sweating, become confused or lethargic, and may even have a seizure. The internal body temperature may exceed 106 degrees Fahrenheit. Signs and symptoms of heat stroke typically include:
 - Absence of sweating
 - Dry skin
 - Agitation or strange behavior
 - Dizziness, disorientation, or lethargy
 - Seizures or signs that mimic those of a heart attack

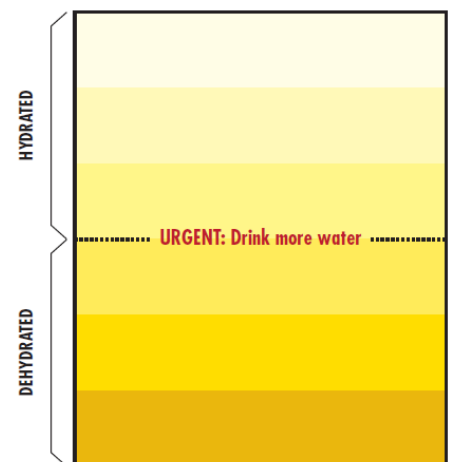
Ensure that emergency responders are summoned immediately if heat stroke is suspected. While waiting for emergency responders to arrive, cool the employee; move the employee to an air-conditioned environment or a cool, shady area; and help the employee remove any unnecessary clothing. Do not leave the employee unattended. Heat stroke requires immediate medical attention to prevent permanent damage to the brain and other vital organs that can result in death.

Heat index	Risk level	Protective measure
Less than 91°F (33°C)	Lower (caution)	Basic health and safety planning
91°F to 103°F (33°C to 39°C)	Moderate	Implement precautions and heighten awareness
103°F to 115°F (39°C to 46°C)	High	Additional precautions to protect workers
Greater than 115°F (46°C)	Very high to extreme	Even more aggressive protective measures

Preventing Heat-Related Illnesses

- Gradually increase workloads and allow more frequent breaks during the first week of work so that employees become acclimatized to higher temperatures, especially those who are new to working in the heat or have been away from that work for a week or more.
- Encourage employees to frequently drink small amounts of water before they become thirsty to stay hydrated. During moderate activity, in moderately hot conditions, employees should drink about 8 ounces of liquid every 15 to 20 minutes. Employees can monitor their hydration with a urine chart. Urine should be clear or slightly colored; dark urine is a warning sign. See urine color chart below.
- Encourage employees to eat regular meals and snacks as they provide enough salt and electrolytes to replace those lost through sweating. It is important that employees consume copious amounts of water.
- Provide a buddy system where employees encourage each other to drink water, use shade to stay cool, and to watch each other for symptoms of heat-related illness.
- Educate employees that drinking extreme amounts of water can also be harmful (more than 12 quarts in a 24-hour period).
- Schedule frequent rest periods with water breaks in shaded or air-conditioned recovery areas. Note that air-conditioning does not result in loss of heat tolerance.
- Ensure employees are aware of the signs of heat-related illnesses and encourage them to report immediately when they or their co-workers show symptoms.
- Monitor weather reports daily and reschedule jobs with high heat exposure to cooler times of the day, if possible. Be extra vigilant when air temperatures rise quickly. When possible, schedule routine maintenance and repair projects for the cooler parts of the year.
- Provide shade or cool areas for breaks

Urine Color Chart
Are you hydrated?



Responsibilities

All employees are responsible for protecting themselves from heat illnesses by following these guidelines for prevention and immediately reporting any signs or symptoms to his or her supervisor.

_____ is responsible for conducting initial training with new employees and for the annual refresher training.

_____ is responsible for administering the provisions of this plan.

Provision of Water

Water is located throughout the work area. *Locations include:*

Access to Shade/Cooling Areas

Shade or cooling areas are *located:*

Determination of Heat Index

For our employees that work in buildings or structures that do not have a mechanical cooling system we will:

- ☐ measure the relative humidity and temperatures inside these structures **or**
- ☐ use the NIOSH Heat Stress app to determine the heat index outdoors and assume that it is the same indoors and inform you/our employees of the heat index and the risk of our employees experiencing a heat-related illnesses based upon the chart in the *Heat-Related Illnesses* section.

NIOSH Heat Stress Application (App)

All supervisors, managers, and employees that download the *Heat Stress Application* found at: cdc.gov/niosh/topics/heatstress/heatapp.html should watch a short video located on the Oregon OSHA website:

<https://osha.oregon.gov/media/videos-online/Pages/heat-safety-app-tutorial.aspx>.

Heat Index Chart

Temperature (°F)

	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
80	77	78	78	79	79	79	80	80	80	81	81	82	82	83	84	84	85	86	86	87
81	78	79	79	79	79	80	80	81	81	82	82	83	84	85	86	86	87	88	90	91
82	79	79	80	80	80	80	81	81	82	83	84	84	85	86	88	89	90	91	93	95
83	79	80	80	81	81	81	82	82	83	84	85	86	87	88	90	91	93	95	97	99
84	80	81	81	81	82	82	83	83	84	85	86	88	89	90	92	94	96	98	100	103
85	81	81	82	82	82	83	84	84	85	86	88	89	91	93	95	97	99	102	104	107
86	81	82	83	83	83	84	85	85	87	88	89	91	93	95	97	100	102	105	108	112
87	82	83	83	84	84	85	86	87	88	89	91	93	95	98	100	103	106	109	113	116
88	83	84	84	85	85	86	87	88	89	91	93	95	98	100	103	106	110	113	117	121
89	84	84	85	85	86	87	88	89	91	93	95	97	100	103	106	110	113	117	122	
90	84	85	86	86	87	88	89	91	92	95	97	100	103	106	109	113	117	122	127	
91	85	86	87	87	88	89	90	92	94	97	99	102	105	109	113	117	122	126	132	
92	86	87	88	88	89	90	92	94	96	99	101	105	108	112	116	121	126	131		
93	87	88	89	89	90	92	93	95	98	101	104	107	111	116	120	125	130	136		
94	87	89	90	90	91	93	95	97	100	103	106	110	114	119	124	129	135	141		
95	88	89	91	91	93	94	96	99	102	105	109	113	118	123	128	134	140			
96	89	90	92	93	94	96	98	101	104	108	112	116	121	126	132	138	145			
97	90	91	93	94	95	97	100	103	106	110	114	119	125	130	136	143	150			
98	91	92	94	95	97	99	102	105	109	113	117	123	128	134	141	148				
99	92	93	95	96	98	101	104	107	111	115	120	126	132	138	145	153				
100	93	94	96	97	100	102	106	109	114	118	124	129	136	143	150	158				
101	93	95	97	99	101	104	108	112	116	121	127	133	140	147	155					
102	94	96	98	100	103	106	110	114	119	124	130	137	144	152	160					
103	95	97	99	101	104	108	112	116	122	127	134	141	148	157	165					
104	96	98	100	103	106	110	114	119	124	131	137	145	153	161						
105	97	99	102	104	108	112	116	121	127	134	141	149	157	166						
106	98	100	103	106	109	114	119	124	130	137	145	153	162	172						
107	99	101	104	107	111	116	121	127	134	141	149	157	167							
108	100	102	105	109	113	118	123	130	137	144	153	162	172							
109	100	103	107	110	115	120	126	133	140	148	157	167	177							
110	101	104	108	112	117	122	129	136	143	152	161	171								
111	102	106	109	114	119	125	131	139	147	156	166	176								
112	104	107	111	115	121	127	134	142	150	160	170	181								
113	104	108	112	117	123	129	137	145	154	164	175									
114	105	109	113	119	125	132	140	148	158	168	179									
115	106	110	115	121	127	134	143	152	162	173	184									
116	107	111	116	122	129	137	146	155	166	177										
117	108	112	118	124	132	140	149	159	170	181										
118	108	113	119	126	134	142	152	162	174	186										
119	109	114	121	128	136	145	155	166	178											
120	110	116	122	130	138	148	158	170	182											
121	111	117	124	132	141	151	162	174	187											
122	111	118	125	134	143	154	165	178												
123	112	119	127	136	146	157	169	182												
124	113	120	129	138	148	160	172													
125	114	121	130	140	151	163	176													

Heat Index



Extreme Danger	Heat stroke likely.
Danger	Sunstroke, muscle cramps, and/or heat exhaustion likely. Heatstroke possible with prolonged exposure and/or physical activity.
Extreme Caution	Sunstroke, muscle cramps, and/or heat exhaustion possible with prolonged exposure and/or physical activity.
Caution	Fatigue possible with prolonged exposure and/or physical activity.

Other Methods of Prevention

For when Heat Index is at Least 80 degrees Fahrenheit:

When the heat index reaches at least 80 degrees Fahrenheit, the following methods of prevention for heat illness should be used:

- Access to shade/cooling areas
- Provision of drinking water
- Follow CDC acclimatization recommendations (*Appendix A*)

For when Heat Index exceeds 90 degrees Fahrenheit:

When the heat index exceeds 90 degrees Fahrenheit, the following additional high-heat practices should be used:

- Mandatory rest break periods (*Appendix B*)
- Two-way communication between employee and supervisors
- A designated employee at the worksite should be equipped and authorized to call 911 for emergency medical services

Training Requirements

These are the topics that our employees will be trained on prior to working in hot environments:

- Environmental and personal risk factors (see above for examples)
- Our procedures for heat illness prevention, including, but not limited to, our responsibility to provide water, heat index information (including the risks to experiencing a heat-related illness), shade/cooling areas, preventative rest breaks, and access to first aid
- The importance of frequent consumption of small quantities of water, up to 32 ounces per hour, when the work environment is hot, and employees are likely to be sweating more than usual in the performance of their duties
- The concept, importance, and methods of the acclimatization plan pursuant to the employer's procedures
- The different types, the common signs and symptoms, and the appropriate first aid and emergency response to the different types of heat illness. Training should include how heat illness may progress quickly from mild signs and symptoms to a serious and life-threatening condition (see above);
- The importance for employees to immediately report signs and symptoms of heat illness in themselves or in others, directly to the employer or supervisor, and
- The effects of nonoccupational factors (drugs, alcohol, obesity, etc.) on tolerance to occupational heat stress.

Documentation of training will be maintained by: _____

Appendix A

CDC Acclimatization Recommendations

According to the Centers for Disease Control (CDC), acclimatization is the beneficial physiological adaptations that occur during repeated exposure to a hot environment.

The CDC recommends the following:

- New workers should only spend 20% of their first day exposure to heat. On each following day, new workers can be exposed to heat at 20% increments.
- For workers who have had previous experience with the job and are returning to work after a leave, the acclimatization regimen should be no more than a 50% exposure to heat on day 1, 60% on day 2, 80% on day 3, and 100% on day 4.

The level of acclimatization each worker reaches is relative to the initial level of physical fitness and the total heat stress experienced by the individual.

Maintaining acclimatization

Workers can maintain their acclimatization even if they are away from the job for a few days, such as when they go home for the weekend. However, if they are absent for a week or more then there may be a significant loss in the beneficial adaptations leading to an increased likelihood of heat-related illness and a need to gradually reacclimate to the hot environment.

The CDC offers some additional information on maintaining acclimatization:

- It can often be regained in 2 to 3 days upon returning to a hot job
- It appears to be maintained better by those who are physically fit
- Seasonal shifts in temperatures may result in difficulties
- Air conditioning will not affect acclimatization

Appendix B

NIOSH Work/Rest Schedule

Work/rest schedules for workers wearing normal work clothing*

Adjusted temperature (°F) [†]	Light work (minutes work/rest)	Moderate work (minutes work/rest)	Heavy work (minutes work/rest)
90	Normal	Normal	Normal
91	Normal	Normal	Normal
92	Normal	Normal	Normal
93	Normal	Normal	Normal
94	Normal	Normal	Normal
95	Normal	Normal	45/15
96	Normal	Normal	45/15
97	Normal	Normal	40/20
98	Normal	Normal	35/25
99	Normal	Normal	35/25
100	Normal	45/15	30/30
101	Normal	40/20	30/30
102	Normal	35/25	25/35
103	Normal	30/30	20/40
104	Normal	30/30	20/40
105	Normal	25/35	15/45
106	45/15	20/40	Caution [‡]
107	40/20	15/45	Caution [‡]
108	35/25	Caution [‡]	Caution [‡]
109	30/30	Caution [‡]	Caution [‡]
110	15/45	Caution [‡]	Caution [‡]
111	Caution [‡]	Caution [‡]	Caution [‡]
112	Caution [‡]	Caution [‡]	Caution [‡]

*With the assumption that workers are physically fit, well-rested, fully hydrated, under age 40, and have adequate water intake, and that there is 30% RH [relative humidity] and natural ventilation with perceptible air movement.

[†]Note: Adjust the temperature reading as follows before going to the temperature column in the table:

Full sun (no clouds): Add 13°

Partly cloudy/overcast: Add 7°

No shadows visible/work is in the shade or at night: no adjustment

Per relative humidity:

10%: Subtract 8°

20%: Subtract 4°

30%: No adjustment

40%: Add 3°

50%: Add 6°

60%: Add 9°

[‡]High levels of heat stress; consider rescheduling activities.