



Mission Success Starts With Safety



SSC Monthly Construction Contractor Meeting

Safety Presentation

Heat Hydration & Smoking on SSC

June 06, 2024

HEAT STRESS Risk Factors

Workers should be aware of the many factors that can impact the risk of heat illness.

Environment

- High temperatures, especially with high humidity, which makes sweating less effective
- Direct sun exposure
- Lack of wind or breeze to cool the body; however, when ambient conditions are higher than body temperature, warm airflow can actually *increase* heat gain
- Proximity to engines or other hot equipment



Activities

- High exertion
- Not enough rest breaks
- Repeated strenuous days in the heat
- High motivation to push through discomfort from heat strain



Photo by NIOSH

Points to Remember:

- **Acclimatization is critical**
Lack of acclimatization is a major factor in heat-related deaths on the job.
- **Hydration is critical**
Dehydration greatly increases the risk of heat illness. Don't wait to hydrate! Drink cool water even if you are not thirsty – at least 1 cup every 20 minutes.
- **A recent illness can temporarily lower your heat tolerance**
- **Be aware of other personal risk factors for heat illness:**
 - Prior heat illness
 - Certain medications
 - Certain health conditions
 - Alcohol use within 24 hours of working in heat

No Acclimatization

- New employees
- Experienced employees returning from time away from the heat
- Acclimatized workers who experience a sudden change in worksite temperature, such as heat waves or mining in a new area



Medications

- Heat tolerance can be affected by medications taken for
- cold, allergies, and congestion
 - muscle spasms
 - blood pressure
 - urine production (diuretics)
 - high blood pressure
 - diarrhea
 - dizziness/vertigo
 - psychosis
 - depression



Dehydration

- One of the most important risk factors



Health Conditions

- Short-term illnesses, such as diarrhea, vomiting, or respiratory infections
- Chronic conditions, such as diabetes and heart disease
- Being overweight or obese
- Poor physical fitness



Prior Heat Illness

- Increases the risk of heat illness in the future



Other Factors

- Age over 60
- Non-breathable clothing or personal protective equipment
- Alcohol use in the past 24 hours

Water Keeps You Going.





Summer Months

Heat and Hydration awareness April thru September.

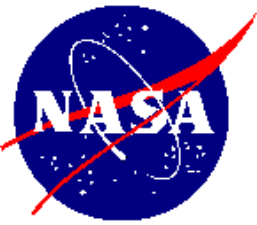
- All AHA's / SPA's **MUST** address Heat and Hydration daily.
- Heat topics included in all new hire orientations.
- Drinking water coolers are sanitized weekly and a log kept.
- Drinking water coolers are taped daily with the date of fresh water
- We encourage job rotations when working in direct sunlight.
- We encourage covers over workers in direct sunlight.
- Posted signs all work areas:
 - Are you drinking enough water recommended intake.
 - Post heat index matrix in work areas.
 - Post urine color levels in portable johns.
- Monitor coolers all day for availability of cool water.
- Ask if staff is drinking water.
- Take breaks for hydration as needed.
- Post a thermometer for quick temperature reference.
- Any worker feeling the effects of heat notify their supervisor immediately, remove them to a cool area and provide water.

AM I HYDRATED?

Urine Color Chart

1		
2		If your urine matches the colors 1, 2, or 3, you are properly hydrated.
3		Continue to consume fluids at the recommended amounts.
4		If your urine color is below the RED line, you are
5		DEHYDRATED and at risk for cramping and/or a heat illness!!
6		YOU NEED TO DRINK MORE WATER!
7		
8		

Source: <http://tt.tennis-warehouse.com/showthread.php?t=440453>



Heat Category & Index

Category	Flag	Heat Index	Intensity of Prolonged Exposure and/or Physical Activity
Okay		Less than 80°F (< 27°C)	
Caution		80 - 90°F (27 - 32°C)	Fatigue possible with prolonged exposure and/or physical activity.
Extreme Caution		90 - 105°F (32 - 41°C)	Sunstroke, muscle cramps, and/or heat exhaustion possible with prolonged exposure and/or physical activity.
Danger		105 - 129°F (41 - 54°C)	Sunstroke, muscle cramps, and/or heat exhaustion likely. Heat stroke possible with prolonged exposure and/or physical activity.
Extreme Danger		130°F or higher (54°C or higher)	Heat stroke or sunstroke likely.

Heat Index Chart (air temperature and relative humidity)

Temperature (F) versus Relative Humidity (%)

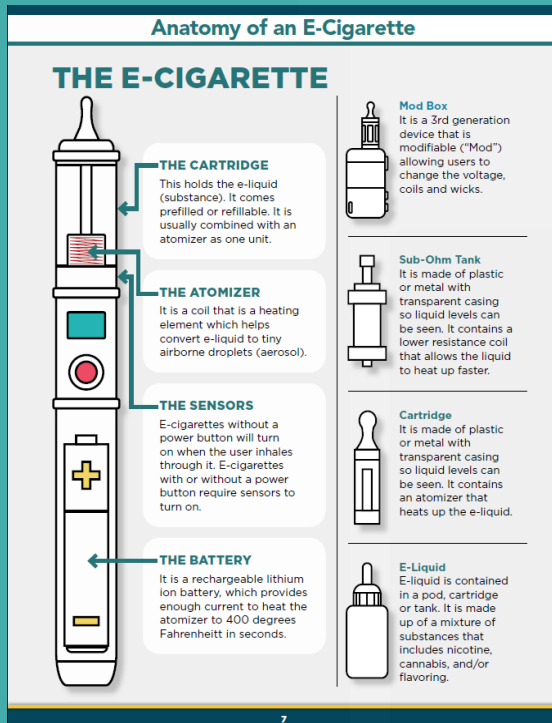
°F	90%	80%	70%	60%	50%	40%
80	85	84	82	81	80	79
85	101	95	92	90	88	84
90	121	113	105	99	94	90
95		133	122	113	106	98
100			142	129	118	109
105				148	133	121
110						135

HI	Possible Heat Disorder:
80°F - 90°F	Fatigue possible with prolonged exposure and physical activity.
90°F - 105°F	Sunstroke, heat cramps and heat exhaustion possible.
105°F - 130°F	Sunstroke, heat cramps, and heat exhaustion likely, and heat stroke possible.
130°F or greater	Heat stroke highly likely with continued exposure.



Smoking while on SSC

E-CIGARETTES AND OTHER VAPING DEVICES



Per NASA NPD 1800.1 Smoking, including electronic cigarettes (e-cigarettes) at SSC is prohibited as follows:

- (1) Inside all interior space owned, rented, or leased by NASA Stennis Space Center (SSC).
- (2) In courtyards and in any outdoor areas within 25 feet of doorways and air intake ducts.
- (3) In any location identified as a no-smoking area (e.g., liquid hydrogen storage tanks, fuel storage and transfer areas, etc.).
- (4) In SSC vehicles leased through the General Services Administration (GSA) or Government owned vehicles.
- (5) In any location where flammable or combustible materials are present.