



SOWINCHER® HYDRATION SOLUTIONS

HEAT AWARENESS

KNOWLEDGE FOR YOUR SAFETY



SAFETY TIPS

1. Environments of 90°F or above

Use extreme caution, especially during strenuous activity.

2. Acclimate

Allow the body to adjust to high-heat, high-humidity environments.

3. PPE Clothing

PPE is necessary but can greatly increase risk of heat stress; therefore, monitor yourself continuously. At 81°F and above, experts recommend spending no more than 15 minutes of any one hour in an impervious suit unless cooling is provided or wearing a heat stress monitor.

Source: <https://www.ncbi.nlm.nih.gov/books/NBK232870/>

4. Thirst and/or Sweat

These are NOT ALWAYS dependable gauges for proper hydration or fluid intake.

5. Know the Symptoms

Be familiar with heat stroke, heat exhaustion and heat cramps to respond quickly. (Review Heat Illnesses below)

6. Prevention

Preventing a heat stress injury is much easier than recovering from the injury. Drink fluids and replace electrolytes on a regular basis throughout the day.

Sources: <https://www.mayoclinic.org/want-to-stay-hydrated-drink-before-youre-thirsty/art-2039007>
<https://blogs.cdc.gov/niosh-science-blog/2020/08/06/ppe-heat-stress/>



HEAT ILLNESSES

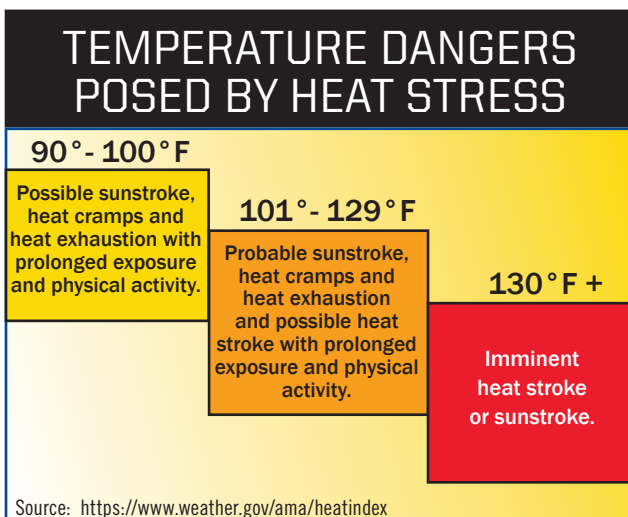
Symptoms and responses to unprotected heat exposure

SYMPTOM

RESPONSE

Sunburn: Redness & painful skin; swelling of skin, blisters, fever and headaches are typical in severe cases.	Ointments for mild cases. DO NOT break blisters. If they do break, apply dry, sterile dressing. For severe cases, consult a physician.
Heat Cramps: Painful muscle spasms, usually in the legs and abdomen. Possible heavy sweating.	Apply firm pressure on cramping muscles, then gently massage to relieve muscle spasm. Give sips of water or balanced carbohydrate/electrolyte drinks every 15 minutes.
Heat Exhaustion: Heavy sweating, weakness, pale and clammy skin, nausea, low blood pressure, rapid pulse, fainting and possible vomiting.	Stop exertion, move to a cool spot and drink water or balanced carbohydrate/electrolyte drinks every 15 minutes for an hour. If victim vomits, seek immediate medical attention.
Exertional Heat Illness: Stuporous appearance, tired, nausea with possible vomiting. Unsteady gait, heavy perspiration, dehydrated with high body temperature (up to 104° F), often accompanied by headache, rapid respiration and pulse.	Cease exertion and promptly cool body exterior. Initiate replacement of fluids – water first, then a balanced carbohydrate/electrolyte drink. If victim cannot retain fluids transport to hospital.
Heat Stroke: High body temperature (105° F or higher), hot, red and dry skin, strong rapid pulse, possible unconsciousness.	Heat stroke is a severe medical problem. Move victim to cooler area and reduce body temperature with cold bath or sponging. Use fans and air conditioners. Get victim to hospital – DELAY CAN BE FATAL. - DO NOT GIVE FLUIDS!

Source: <https://blogs.cdc.gov/niosh-science-blog/2020/08/06/ppe-heat-stress/>



How To Use The Heat Index Chart

Across top (Air Temperature) locate today's predicted high temperature.

Down left side (Relative Humidity) locate today's predicted humidity.

Follow across and down to find "Apparent Temperature" or "What It Feels Like".

HEAT INDEX CHART

Source: <https://www.wrh.noaa.gov/psr/general/safety/heat/heatindex.png>

Air Temp. / Relative Humidity ↓	70°	75°	80°	85°	90°	95°	100°	105°	110°
0%	64°	69°	73°	78°	83°	87°	91°	95°	99°
10%	65°	70°	75°	80°	85°	90°	95°	100°	105°
20%	66°	72°	77°	82°	87°	93°	99°	105°	112°
30%	67°	73°	78°	84°	90°	96°	104°	113°	123°
40%	68°	74°	79°	86°	93°	101°	110°	122°	137°
50%	69°	75°	81°	88°	96°	107°	120°	135°	150°
60%	70°	76°	82°	90°	100°	114°	132°	149°	
70%	70°	77°	85°	93°	106°	124°	144°		
80%	71°	78°	86°	97°	113°	136°	157°		
90%	71°	79°	88°	102°	122°	150°	170°		
100%	72°	80°	91°	108°	133°	166°			

Heat Index Values were devised for shady, light wind conditions. Exposure to full sun can increase values by up to 15° F. Strong winds, particularly with hot, dry air can be extremely hazardous.



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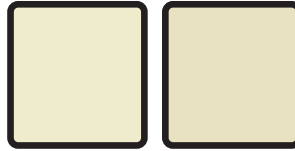
HYDRATION LEVEL

EVALUATING HYDRATION BY URINE COLOR



TARGET HYDRATION LEVEL

Maintain level

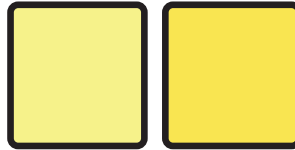


PROPERLY HYDRATED

If urine resembles or matches these colors

DEHYDRATED

Needs improvement



WARNING

DEHYDRATED

If urine resembles or matches these colors - more fluids should be consumed

SEVERELY DEHYDRATED

Immediate attention



SEVERELY DEHYDRATED

If urine matches these colors - **SERIOUS DEHYDRATION** has occurred. It is suggested that a physician be contacted to determine the severity of dehydration

Source: <https://www.cdc.gov/niosh/mining/UserFiles/works/pdfs/2017-126.pdf>



PERFORMANCE

Body overview and the effects of fluid balance.



THE BODY IS 60 - 70% WATER

WATER - Recommended intake

15.5 cups (men) a day; 11.5 cups (women) a day. Hotter environments and/or strenuous activity, increase intake required.

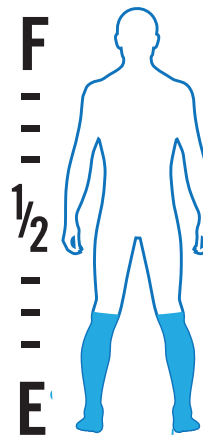
Source: Water: Mayo Clinic -

<http://www.mayoclinic.com/healthy-lifestyle/nutrition-and-healthy-eating/indepth/water/art-20044256>

ELECTROLYTES - Recommended intake

6-10 oz. every 15-20 minutes during strenuous activity, especially in hot environments.

Source: Role of Carbohydrate-Electrolyte Fluid Replacement in the Industrial Environment. Human Performance Laboratory, University of Alabama, Tuscaloosa, AL



CONSEQUENCES OF FLUID LOSS AND NEGLECT OF FLUID BALANCE

- 2% - Impaired Performance
- 4% - Capacity for muscular work declines
- 6% - Heat Exhaustion
- 8% - Hallucination
- 10% - Circulatory collapse and heat stroke

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6282244/>



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hydration that works.



This safety information is provided by Kent Precision Foods Group as a public service to industry and the industrial worker.

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