



HYDRATION SOLUTIONS FOR THE WORKING WORLD

BECAUSE DEHYDRATION IS A THREAT IN EVERY SEASON

Understanding how worker performance and efficiency is affected by environmental conditions is critical to reducing dehydration-related illnesses and accidents. At Sqwincher, we are committed to providing hydration education and solutions that help companies meet the needs of all workers – 365 days a year.

FACTS:

THE BODY IS 60-70% WATER*

Maintaining and balancing the body's fluid level is imperative. Factors that contribute to fluid loss include:

- Sweating between skin and winter clothing
- Exhaling
- Urination (increases in cold weather)
- Diuretic intake
- Natural body exertion to maintain core temperature (e.g. shivering)

**Varying factors: age, gender, environment and conditioning*

FLUID LOSS	RESULT
2%	Impaired performance
4%	Muscular function and capacity declines
6%	Fatigue and exhaustion
8%	Hallucination and disorientation
10%	Circulatory collapse and hypothermia

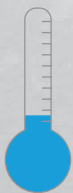
HYDRATION LEVEL CHART:

USE THE COLOR CHART TO IDENTIFY HYDRATION LEVEL.

TARGET LEVEL Maintain level		PROPERLY HYDRATED – If urine resembles or matches these colors.
DEHYDRATED Needs improvement		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. Contact a physician.

COLD FACTORS:

Contributing to unsafe drop in body temperature and fluid loss:



- Freezing temperature and wind chill
- Improper winter clothing or layering
- Level of exertion/work load or strain
- Direct exposure and duration to weather
- Hydration neglect and poor diet
- Medical precondition
- Lack of physical conditioning

WIND CHILL INDEX:

APPARENT DANGERS POSED BY COLD STRESS

32° to -19° F	-20° to -40° F	-40° F & Below
Discomfort to cold conditions, chilblains and frostbite possible to face and extremities.	Hypothermia possible with prolonged exposure to cold, and frostbite occurs within 10-30 minutes.	Frostbite within 5 minutes. Hypothermia imminent without proper precaution.

RECOMMENDATION FOR PROPER HYDRATION:

WATER (cups per day)¹



In colder environments and/or strenuous activity, an increase in fluid intake may be necessary.

ELECTROLYTES



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

**Individual circumstances may vary. Include water with electrolyte consumption.*

Water is necessary, but water alone will not replace lost nutrients and minerals such as electrolytes. Electrolytes consist of minerals such as sodium, potassium, magnesium and calcium, which are critical for cell and muscular function.



¹ Increase intake in colder environments and/or during strenuous activity. Source: Water: How much should you drink every day? <http://www.mayoclinic.com/health/water/NU00283>
² Source: Role of Carbohydrate-Electrolyte Fluid Replacement in the Industrial Environment. Human Performance Laboratory, University of Alabama, Tuscaloosa, AL.



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- Sweating
- Exhaling
- Urination
- Diuretic intake
- Natural body exertion to maintain core temperature

**Varying factors: age, gender, environment and conditioning*

FLUID LOSS	RESULT
2%	Impaired performance
4%	Muscular function and capacity declines
6%	Heat exhaustion
8%	Hallucination
10%	Circulatory collapse and heat stroke

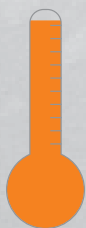
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DEHYDRATED Needs improvement	 <p>DEHYDRATED – If urine resembles or matches these colors more fluids should be consumed.</p>
SEVERELY DEHYDRATED Immediate attention	 <p>SEVERELY DEHYDRATED – If urine matches these colors, SERIOUS DEHYDRATION has occurred. Contact a physician.</p>

HEAT FACTORS:

Contributing to elevated body temperature and rapid fluid loss:



- High temperature and humidity
- Level of exertion/work load or strain
- PPE and heavy clothing
- Poor air flow and circulation
- Machine/equipment heat
- Direct sunlight exposure
- Medical precondition
- Lack of physical conditioning

HEAT INDEX:

APPARENT DANGERS POSED BY HEAT STRESS

90° to 100° F	101° to 129° F	130° F +
Possible sunstroke, heat cramps and heat exhaustion with prolonged exposure and physical activity.	Probable sunstroke, heat cramps and heat exhaustion and possible heat stroke with prolonged exposure and physical activity.	Imminent heat stroke or sunstroke.

RECOMMENDATION FOR PROPER HYDRATION:

WATER (cups per day)¹



In hotter environments and/or strenuous activity, an increase in fluid intake may be necessary.

ELECTROLYTES

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

**Individual circumstances may vary. Include water with electrolyte consumption.*

Water is necessary, but water alone will not replace lost nutrients and minerals such as electrolytes. Electrolytes consist of minerals such as sodium, potassium, magnesium and calcium, which are critical for cell and muscular function.



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