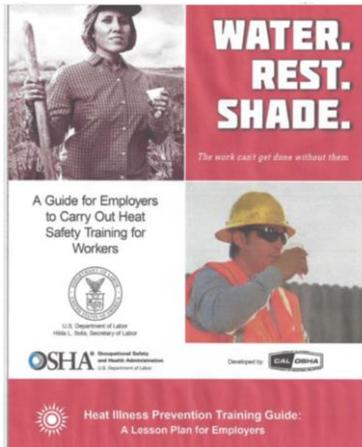


# Heat National Emphasis Program Review

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# Disclaimer

This information has been compiled and developed by a Compliance Assistance Specialist and is intended to assist employers, workers, and others improve workplace health and safety. While we attempt to thoroughly address specific topics or hazards, it is not possible to include discussion of everything necessary to ensure a healthy and safe working environment in this presentation. This information is a tool for addressing workplace hazards and is not an exhaustive statement of an employer's legal obligations, which are defined by statute, regulations, and standards. *This document does not have the force and effect of law and is not meant to bind the public in any way. This document is intended only to provide clarity to the public regarding existing requirements under the law or agency policies.* It does not create (or diminish) legal obligations under the Occupational Safety and Health Act. Finally, OSHA may modify rules and related interpretations in light of new technology, information, or circumstances; to keep apprised of such developments, or to review information on a wide range of occupational safety and health topics, you can visit OSHA's website at [www.osha.gov](http://www.osha.gov).

# Heat NEP: Discussion Topics



- Purpose, Scope
- Goal and OSHA regulations
- High Hazard Industries
- Industry Example
- Compliance Resources

<https://www.osha.gov/heat>

# Heat NEP: Purpose

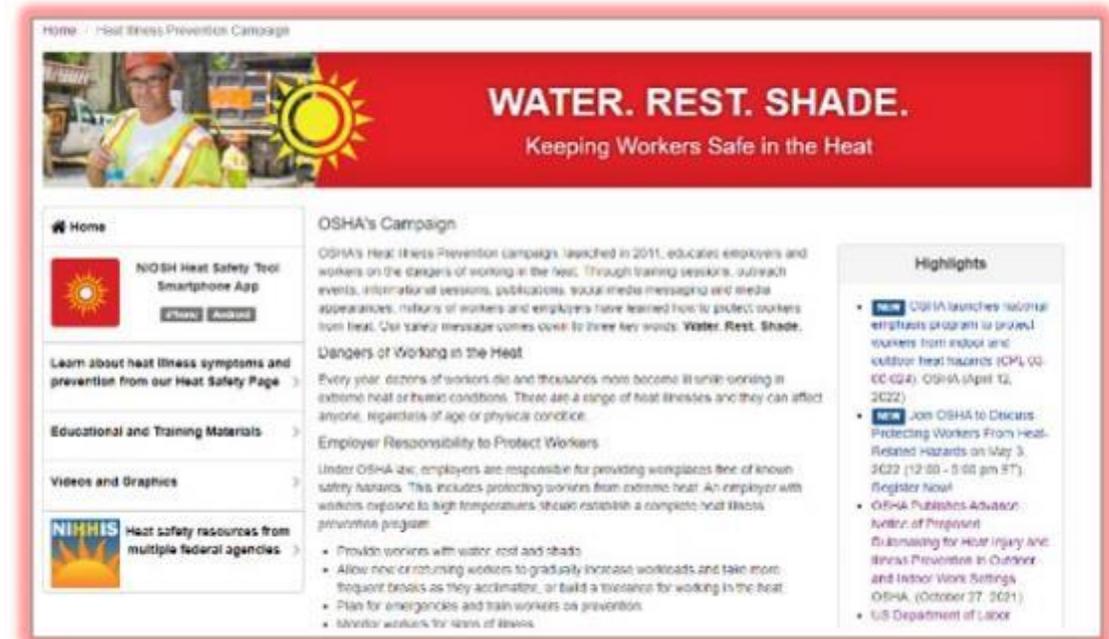
- The NEP ensures employees in high-hazard industries are protected from both indoor and outdoor heat-related hazards.
- The NEP adds an enforcement component to target specific high-hazard industries in workplaces where this hazard is prevalent; and
- The NEP focuses on vulnerable workers in **outdoor** and **indoor** environments by coordinating efforts with the Department of Labor Wage and Hour Division (WHD).
- [CPL 03-00-024](#), Effective Date: April 8, 2022, operative for 3 years

# Heat NEP: Scope

- The Heat NEP incorporates and expands on the September 1, 2021, heat initiative OSHA Memorandum (*now archived*).
- The NEP provides procedures for planned/programmed and follow-up inspections in targeted workplaces
- The NEP prioritizes **on-site** (in person) response for complaints and for all employer-reported hospitalizations (i.e., severe injury reports) related to heat hazards.

# Heat NEP: Goals

- To reduce or eliminate worker exposures to heat hazards.
- To target industries and worksites where employees are not provided with cool water, rest, cool shaded areas, training, and acclimatization.

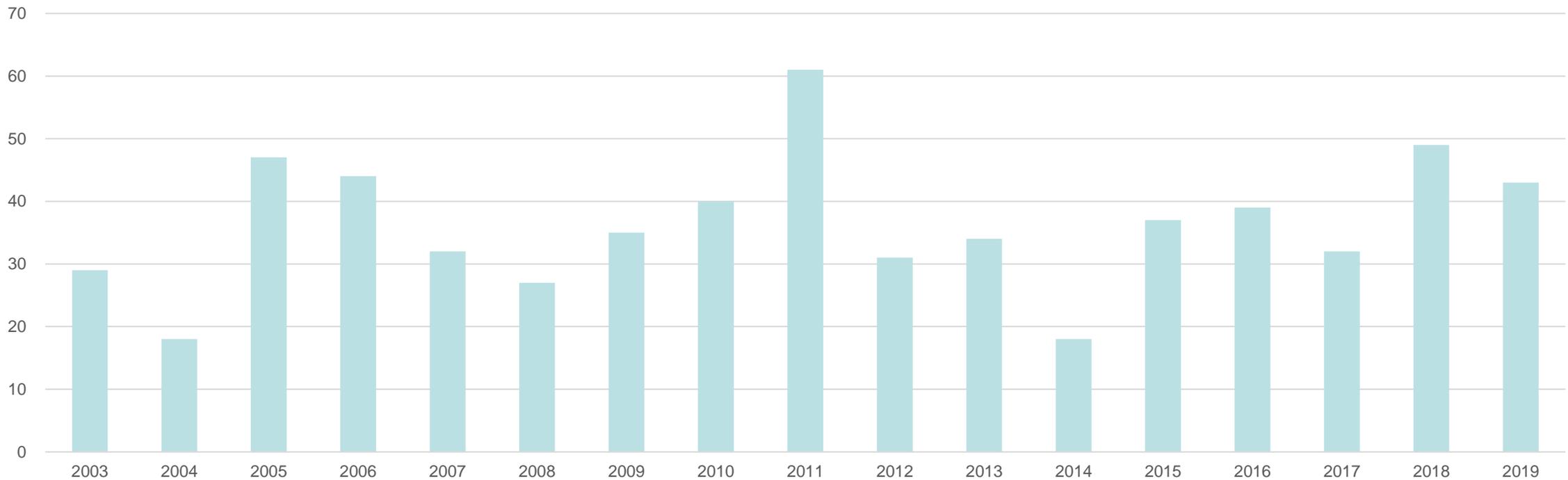


# Heat NEP: Goals (Cont'd)

- Proactive vs. Reactive approach.
- Use of enforcement, outreach to employers, and compliance assistance.
- OSHA's goal is to increase heat inspections by 100% above the baseline of the average of fiscal years **2017** through **2021**.

# BLS – Fatal occupational injuries related to environmental heat

Fatal occupational injuries



<https://www.bls.gov/opub/ted/2021/43-work-related-deaths-due-to-environmental-heat-exposure-in-2019.htm>

# Heat NEP: Inspection Data

HISTORICAL DATA BY FISCAL YEAR	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	3-Yr Avg 2017-2019	5-Yr Avg 2017-2021	8-Yr Avg 2012-2019
TOTAL OSHA HEAT INSPECTIONS	110	175	112	191	323	171	235	239	79	166	216	<b>179</b>	193

Data Source: OSHA Inspection Information System  
 Public Data available at: <https://www.osha.gov/data>

# Heat NEP: Inspection Procedures

- On **heat priority days** (when the heat index is expected to be **80 degrees F or higher**):
  - During any programmed or unprogrammed inspections, CSHOs should inquire about heat-related hazard prevention programs
  - Provide compliance assistance where needed
- On any day that the **NWS** has announced a heat **advisory or warning**, for the local area: <https://www.weather.gov/safety/heat-ww>
  - Conduct programmed inspections at targeted industries
- May expand inspection scope if heat hazards are present

# Heat NEP: High Heat Hazard Industries - Appendix A

<b>Table 1 – Examples of non-construction industries in ListGen</b>	<b>Table 2 – Examples of construction industries</b>	<b>Table 3 – Examples of industries based on local knowledge</b>
<b>2017 NAICS Industry Sector Title</b>	<b>2017 NAICS Industry Sector Title</b>	<b>2017 NAICS Industry Sector Title</b>
3118 Bakeries and Tortilla Manufacturing	2361 Residential Building Construction	1112 Vegetable and Melon Farming
3211 Sawmills and Wood Preservation	2362 Nonresidential Building Construction	4911 Postal Service
3241 Petroleum and Coal Products Manufacturing	2371 Utility System Construction	5613 Employment Services
3251 Basic Chemical Manufacturing	2372 Land Subdivision	5616 Investigation and Security
3272 Glass and Glass Product Manufacturing	2373 Highway, Street, and Bridge Construction	7225 Restaurants and Other Eating Places
3311 Iron and Steel Mills and Ferroalloy Manufacturing	2379 Other Heavy and Civil Engineering Construction	
3314 Nonferrous Metal (except Aluminum) Production and Processing		
3315 Foundries		

# Heat NEP: Inspection Procedures

- Observations: heat sources, workload exertions, PPE, duration
- Records Review: OSHA 300 & 301, emergency records
- Interviews: symptoms, previous incidents
- Heat Program
- Weather Conditions

# Heat NEP: Heat Program Considerations

- Is there a written program?
- How did the employer monitor ambient temperature(s) and levels of work exertion at the worksite?
- Was there access to water, rest, shade, breaks?
- Did the employer provide time for acclimatization of new and returning workers?
- Was a “buddy” system in place on hot days?
- Were administrative controls used (earlier start times, and employee/job rotation) to limit heat exposures?
- Did the employer provide training on heat illness signs, how to report signs and symptoms, first aid, how to contact emergency personnel, prevention, and the importance of hydration?

# Acclimatization

## **New Workers/Returning after absence**

Monday	Tuesday	Wednesday	Thursday	Friday
<b>20%</b>	<b>40%</b>	<b>60%</b>	<b>80%</b>	<b>100%</b>

## **All workers during a heat advisory**

Monday	Tuesday	Wednesday	Thursday	Friday
<b>50%</b>	<b>60%</b>	<b>80%</b>	<b>100%</b>	<b>100%</b>

# Heat NEP: Weather Conditions

- Observe and document current conditions and those at the time the incident occurred (for unprogrammed inspections), including:
  - Observed wind speed,
  - Relative humidity,
  - Dry bulb temperature at the workplace and in the shaded rest area,
  - Wet-bulb globe temperature at the workplace, (ensure the equipment has been properly calibrated prior to use),
  - Cloud cover (no clouds, 25%, 50%, 75%, 100%), and
  - The existence of any heat advisories, warnings, or alerts the previous days.

# Heat NEP: Regulations Review

- General Duty Clause 5(a)(1) or HAL
- Other applicable standards:
  - **Recordkeeping:** 1904.7(b)(5) and 1926.22
  - **Personal Protective Equipment:** 1910.132 and 1926.28
  - **Sanitation:** 1910.141, 1915.88, 1917.127, 1918.95, 1926.51, and 1928.110
  - **Medical Services and First Aid:** 1910.151 and 1926.23.
  - **Safety & Health Program** (frequent safety & health inspections): 1926.21 and 1926.20

# NWS Heat Advisory Chart

NOAA's national Weather Service  
Heat Index  
Temperature (°F)

Relative Humidity (%)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	136					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

- Caution
- Extreme Caution
- Danger
- Extreme Danger



# Heat Incident

- A construction worker had returned to work after a four to five week layoff.
- He had been constructing formwork in an area open to full sun on the site starting at 7:00 am.
- On his first day back on the job he strove hard to make a good impression and only took one break to eat a banana and drink water.
- During the middle of the afternoon, the heat index rose to 99°F.
- As he prepared to leave for the day just before 3:00 pm, he collapsed and was transported to the hospital. He was admitted to the hospital with a core temperature over 106°F. He was hospitalized for several days for heat stroke and fortunately he recovered.



# Heat Incident

Time	Dry Bulb Temp (°F)	Relative Humidity (%)	Solar Irradiance**	Wind Speed (MPH)	Station Pressure (inHg)	Calculations		
						Heat Index*	WBGT (°F)***	WBGT (°C)
7:54	83	72	990	0	29.91	89	95.1	35.06
8:54	85	68	990	6	29.93	92	85	29.44
9:54	86	63	990	5	29.92	92	86.1	30.05
10:54	88	61	980	6	29.91	96	87.3	30.72
11:54	89	59	980	8	29.91	97	87.1	30.61
12:54	90	59	980	9	29.9	99	87.6	30.89
13:54	91	54	710	9	29.88	99	86.4	30.22
14:54	91	52	990	6	29.87	98	88	31.11
Max	91	52	990	0	29.87	89	85	29.44
Min	83	72	990	9	29.3	99	95.1	31.11

# Heat Incident



- Metabolic Rate – Working with lifting heavy wood, hammering/cutting
- Rest – Limited break time
- Shade – Worked in direct sunlight without shade
- Hydration – Only took one break during the day
- Acclimatization – Was off for 4-5 weeks

# What can we do?

Employers can-

- Engineering controls- such as?
- Administrative controls- such as?
- Is there PPE?
- Provide Training- such as?

Employees can-

- Wear light clothing
- Avoid alcohol and drink more water
- Monitor themselves and co-workers



# OSHA Heat Safety Tool

- Provides Heat Index
- Displays Risk Level
- Reminders about Protective Measures
- Available in English and Spanish for Android and iPhone



http://www.osha.gov/SLTC/ OSHA's Campaign to Preve...

Home Workers Regulations Enforcement Data & Statistics Training Publications Newsroom Small Business Anti-Retaliation

Back to Previous / Heat Safety Tool versión en español

## Heat Safety Tool

By U.S. Department of Labor (DOL), Occupational Safety and Health Administration (OSHA)

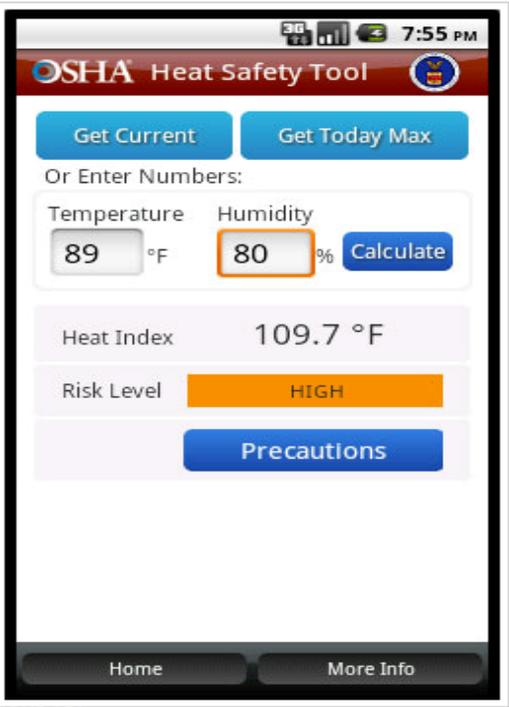
Android Market iPhone

When you're working in the heat, safety comes first. With the Heat Safety Tool, you have vital safety information available and wherever you need it - right on your mobile phone.

The App allows workers and supervisors to calculate the heat index for their worksite, and, based on the heat index, displays the risk level to outdoor workers. Then, with a simple "click," you can access information about the **protective measures** that should be taken at that level to protect workers from heat-related illness-reminders to drink enough fluids, scheduling rest breaks, planning for emergencies, knowing what to do in an emergency, adjusting work operations, gradually building up the workload for new workers, training workers on illness signs and symptoms, and monitoring each other for symptoms of heat-related illness.

Working in full sunlight can increase heat index values by 5 to 10 degrees Fahrenheit. Keep this in mind and plan additional precautions when working in these conditions.

The OSHA Heat Tool is available in Spanish for Android and iPhone devices. To access the Spanish version on the iPhone, set the phone language setting to Spanish before downloading the app.



Home More Info

 Campaign to Prevent Heat Illness in

<https://www.osha.gov/heat/heat-app>

## SIGNS OF

# HEAT EXHAUSTION

# HEAT STROKE

**DIZZINESS & FAINTING**

**EXCESSIVE SWEATING**

**RAPID, WEAK PULSE**

**NAUSEA OR VOMITING**

**COOL, PALE CLAMMY SKIN**

**MUSCLE CRAMPS**



**THROBBING HEADACHE**

**NO SWEATING**

**RAPID, STRONG PULSE**

**NAUSEA OR VOMITING**

**RED, HOT DRY SKIN**

**MAY LOSE CONSCIOUSNESS**

## Heat Illness Prevention

**Heat** | General Education | Employer's Responsibility | Worker Information



Every year, dozens of workers die and thousands more become ill while working in hot or humid conditions. The OSHA Heat Illness Prevention campaign educates employers and workers on the dangers of working in the heat.



### Heat Illness General Education

Heat illness is serious, but you can prevent it.

[Learn More](#)



### Employer's Responsibility

Employers can keep workers safe in the heat.

[Learn More](#)



### Worker Information

Understand workers' rights and what workers should know about heat illness.

[Learn More](#)

### Featured Resources

[Prevent Heat Illness at Work: OSHA Alert \(PDF\)](#) • [Español \(PDF\)](#)

[Heat Illness: Prevent Heat Illness at Work Poster \(PDF\)](#) • [Español \(PDF\)](#)

[Sun Safety at Work Infographic English \(ZIP\)](#)

[See all OSHA publications about Heat](#)

# www.osha.gov/heat-exposure

## Heat



- Home
- Planning and Supervision >
- Heat-Related Illnesses & First Aid >
- Prevention >
- Personal Risk Factors >
- Standards >
- Case Studies >
- Additional Resources >
- Workers' Rights >

### Overview: Working in Outdoor and Indoor Heat Environments

Millions of U.S. workers are exposed to heat in their workplaces. Although illness from exposure to heat is preventable, every year, thousands become sick from occupational heat exposure, and some cases are fatal. **Most outdoor fatalities, 50% to 70%, occur in the first few days of working in warm or hot environments because the body needs to build a tolerance to the heat gradually over time. The process of building tolerance is called heat acclimatization. Lack of acclimatization represents a major risk factor for fatal outcomes.**

Occupational risk factors for heat illness include heavy physical activity, warm or hot environmental conditions, lack of acclimatization, and wearing clothing that holds in body heat. (See also, personal risk factors, below.)

Hazardous heat exposure can occur indoors or outdoors, and can occur during any season if the conditions are right, not only during heat waves. The following is a list of some industries where workers have suffered heat-related illnesses.

Outdoors	Indoors
Agriculture	Bakeries, kitchens, and laundries (sources with indoor heat-generating appliances)
Construction – especially, road, roofing, and other outdoor work	Electrical utilities (particularly boiler rooms)

### Highlights

- [National Emphasis Program – Outdoor and Indoor Heat-Related Hazards](#). OSHA Directive CPL 03-00-024, (April 8, 2022). **NEW**
- [OSHA Publishes Advance Notice of Proposed Rulemaking for Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings](#). OSHA, (October 27, 2021).
- [COVID-19 Guidance on the Use of Cloth Face Coverings while Working Outdoors in Hot and Humid Conditions](#). OSHA, (September 2020).
- [COVID-19 Guidance on the Use of Cloth Face Coverings while Working Indoors in Hot and Humid Conditions](#). OSHA

# Are you hydrated? Reminders!

## Start hydrated and stay hydrated!

Training while dehydrated increases the risk for Heat Illness and poor performance

### Are you starting hydrated? Take the Urine Color Test

How does it work?

- **First thing in the morning**, match your urine color to the closest color in the chart. This will tell how well you have hydrated in the past 24 hours.
- Watch the urine stream, not the toilet water, as the water in the toilet will dilute your urine color.
- Below the line: **Increase fluids and food**
- Above the line: **Continue hydration using the Fluid Replacement Guide on the other side.**
- Comparing urine color other than first thing in the morning is not a reliable indicator of hydration status.

**Seek Medical Aid**  
May indicate problems requiring further evaluations

Urine color chart is not for clinical use

Developed in coordination with the U.S. Army Research Institute of Environmental Medicine: <http://www.usariem.army.mil/>

**Public Health**  
Prevent. Promote. Protect.  
U.S. ARMY PUBLIC HEALTH CENTER

Approved for public release, distribution unlimited  
TA-091-JAN20 (Also available as a poster)

## Are You Hydrated? Take the Urine Color Test

### Urine Color Chart

**HYDRATED**

OPTIMAL  
WELL HYDRATED

**DEHYDRATED**

DEHYDRATED:  
You need to drink more water

SEEK MEDICAL AID:  
May indicate blood in urine or kidney disease

\*This color chart is not for clinical use.

### Water Consumption Table

Heat Category	WBGT Index, °F	Easy Work Water Intake (Quart/Hour)	Moderate Work Water Intake (Quart/Hour)	Hard Work Water Intake (Quart/Hour)
1	70° - 81.9°	½	¾	1
2	82° - 84.9°	¾	1	1 ½
3	85° - 87.9°	1	1 ½	2
4	88° - 89.9°	1 ½	2	2 ½
5	≥ 90°	2	2 ½	3

**Purpose**

- With normal kidney function, your level of hydration is indicated by the color of your urine. Some vitamins and supplements may cause a darkening of the urine unrelated to dehydration.
- Since heat-related illness often follows dehydration, this simple test will help protect your health.
- Dehydration also increases your risk for kidney stones.

**How does it work?**

- Match your urine color to closest color in the chart and read the hydration level on the chart.
- Watch the urine stream not the toilet water, as the water in the toilet will dilute your urine color.
- In response to dehydration, the kidneys conserve water and excrete more concentrated urine; the more concentrated the urine the darker the color.

**Prevent Dehydration**

- No amount of training or acclimatization can reduce the body's requirement for water.
- Follow the water consumption guidelines in the water consumption table.

U.S. Army Public Health Command (Provisional)  
<http://ajphc.army.mil/>  
OP075-0810 (Also available as a 10" x 14" poster)

# Contact ISABEL

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OSHA Philadelphia Regional Office

## Contact NICK

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- Email: [dejesse.Nicholas@dol.gov](mailto:dejesse.Nicholas@dol.gov)

**WATER. REST. SHADE.**

*The work can't get done without them.*

*Thank  
you!*