Using the Heat Index: A Guide for Employers

About the Heat Index

The U.S. National Oceanographic and Atmospheric Administration (NOAA) developed the heat index system. The heat index combines both air temperature and relative humidity into a single value that indicates the apparent temperature in degrees Fahrenheit, or how hot the weather will feel. The higher the heat index, the hotter the weather will feel, and the greater the risk that outdoor workers will experience heat-related illness. NOAA issues heat advisories as the heat index rises. To learn more about the heat index, visit NOAA’s website.

Why humidity matters: Relative humidity is a measure of the amount of moisture in the air. Sweat does not evaporate as quickly when the air is moist as it does in a dry climate. Since evaporation of sweat from the skin is one of the ways the human body cools itself on a hot day, high humidity reduces our natural cooling potential and we feel hotter. Low humidity can also be a problem for outdoor workers in hot, desert-like climates. Sweat evaporates very rapidly in low humidity, which can lead to severe dehydration if a person does not drink enough water throughout the day.

IMPORTANT NOTE: The heat index values were devised for shady, light wind conditions, and exposure to full sunshine can increase heat index values by up to 15° Fahrenheit. To account for solar load, added precautions are recommended. See Protective Measures to Take at Each Risk Level.

This guidance is available online at http://osha.gov/SLTC/heatillness/heat_index/.
NOAA issues extreme heat advisories to indicate when excessive, extended heat will occur. The advisories are based mainly on predicted heat index values:

- **Excessive Heat Outlook:** issued when the potential exists for extended excessive heat (heat index of 105-110°F) **over the next 3-7 days.** This is a good time to check on supplies, such as extra water coolers, and refresh worker training.

- **Excessive Heat Watch:** issued when excessive heat could occur within the **next 24 to 72 hours,** but the timing is uncertain.

- **Excessive Heat Warning:** issued when the heat index will be high enough to be **life threatening in the next 24 hours.** This warning indicates that the excessive heat is imminent or has a very high probability of occurring.

- **Excessive Heat Advisory:** similar to an Excessive Heat Warning, but less serious. This is issued when the heat index could be **uncomfortable or inconvenient, but is not life threatening if precautions are taken.**

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