High temperature, high humidity and hard physical work can be a dangerous combination. Working in these conditions or conditions approaching these can cause disorders ranging from heat cramps to heat stroke. Such disorders can be prevented through worker awareness and the implementation of adequate preventive measures.

This alert involves the management of heat stress induced by hot weather that triggers the implementation of a “hot weather” plan. The implementation criteria for the hot weather plan is as follows:

- Humidex reaching or exceeding 38°C (Celsius) and/or
- Heat Waves (3 or more days of temperatures of 32°C or more).

What is Humidex?

The humidex combines the temperature and humidity into one number to reflect the perceived temperature (“what it feels like”). Humidex numbers are intended to inform the general public when conditions of temperature and humidity are possibly uncomfortable. Environment Canada provides the following guide as a measure of discomfort according to humidex:

- Where humidex levels are less than 29°C, most people are comfortable.
- Where humidex levels range from 30°C to 39°C, people experience some discomfort.
- Where humidex levels range from 40°C to 45°C, people are uncomfortable and should avoid exertion.
- Where humidex levels are over 45°C, dangerous conditions exist and many types of activities must be restricted.
- Where humidex exceeds 54°C, heat stroke is imminent.

Can workplaces use humidex to monitor conditions that may result in heat-related illness?

Humidex is intended for the general public to express the combined effects of warm temperatures and humidity. Heat-related illnesses depend on a number of workplace factors in addition to air temperature and humidity. Air movement, radiant temperature, work load, as well as a person’s age and physical fitness are also important. Humidex is therefore, not a reliable indicator of discomfort or the propensity for a heat-related illness resulting from occupational exposure to heat. Workplaces must use caution if applying the humidex; high humidex levels can serve as a cue to assess workplace conditions more precisely.

For hot work environments due to hot weather, a hot weather plan is appropriate. This is a plan based on humidex levels that “triggers” the implementation of additional preventive measures.

The Hot Weather Plan

Today, humidex levels are expected to exceed 38°C. Hot work environments due to hot weather can pose a health risk to workers, therefore, it is necessary that you consider several methods of reducing heat exposures; selection of the appropriate method will vary, depending on the type of workplace, type of work and other factors.

General work practices/controls (already in place)

- Workers have received training and instruction about heat stress and heat strain
- Workers can recognize the signs and symptoms of heat stress
Workers have access to an adequate supply of cool drinking water.

**Consider and as appropriate, implement additional measures/controls for reducing heat exposures:**

- Schedule strenuous jobs to cooler times of the day or another day.
- As appropriate, assign additional workers or rotate workers on “hot jobs”.
- Increase the frequency and/or length of rest breaks. Provide an appropriate work/rest cycle. Work/rest regimens give the body an opportunity to eliminate excess heat and lessen the production of internal body heat. Also, workers should be encouraged to take a rest break should any sign of heat stress or heat disorder develop.
- Slow down the pace of work to reduce the metabolic heat load.
- Workers must be encouraged to drink cool water to replace water lost through perspiration; a worker should drink approximately a cup every 20 minutes or so.
- As appropriate, encourage co-worker observation to detect signs and symptoms of heat strain in others. Promote a “buddy system” since workers may not notice their own symptoms.

If you require assistance regarding the selection of appropriate measures/controls for reducing heat exposures in your work area, contact the Manager, Facilities Safety and Occupational Hygiene [1] at (519) 824-4120 Ext. 58860 or the Facilities Safety Officer [2] at (519) 824-4120 Ext. 52524 in Environmental Health and Safety.

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