

# HEALTH HAZARD FACTS

## Heat Stress

### What is heat stress?

Heat stress is a variety of conditions where the body is under stress from overheating. It can include profuse sweating, dizziness, muscle cramps, confusion, heat rash, sunburn, heat cramps, fainting, heat exhaustion and heat stroke. Heat stress can be fatal.



### Does heat stress affect me?

Your body is always generating heat and losing it to the environment. The harder your body works, the more heat it has to lose. When the environment is hot, humid or has a source of radiant heat, your body must work harder to get rid of its heat and you will be at risk of overheating.

**WorkplaceNL**

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### What workplaces are at risk?

Operations involving high air temperatures, radiant heat sources, high humidity, direct physical contact with hot objects or strenuous physical activities have a high potential for inducing heat stress in employees. Some examples include: commercial kitchens, laundries, bakeries and boilers/electrical utilities.

Outdoor operations conducted in hot weather, such as construction, refining, asbestos removal, roofing, road repair, farming/agriculture and hazardous waste activities, especially those that require workers to wear non-breathing protective clothing, are likely to cause heat stress among exposed workers.

#### Six main factors contribute to heat stress at a workplace:

- |  |                                 |
|--|---------------------------------|
| 1. temperature                         | 4. air movement                 |
| 2. humidity                            | 5. clothing                     |
| 3. radiant temperature of surroundings | 6. physical activity of workers |



### Are some people more prone to heat stress than others?

You are at a greater risk of heat stress if you are physically unfit, suffer from heart disease or other medical conditions, consume alcohol, are not sufficiently acclimatized or are required to wear excessive clothing.

### How should heat stress be treated?

The affected worker should rest in a cool environment and drink water. If the worker does not rapidly improve, obtain medical attention promptly.

# Heat Stress *continued*



## How do you prevent heat stress?

Employers and workers should consider all of the following items in order to help reduce the likelihood of heat stress:

- Identify potential heat stress areas and use necessary control measures.
- Use fans, ventilators, exhaust systems and air conditioning systems to control the workplace temperature.
- Follow a work-rest schedule or reduce activity levels during hot periods.
- Take rest breaks in cool areas.
- Wear clothing that is loose-fitting (if appropriate), tightly woven and light-coloured in order to reflect heat rather than absorb it.
- Conduct training and education sessions on how to recognize the symptoms of heat stress.
- Check with your doctor before working if you are taking medications.
- Make cool drinking water available. A cup of water every 30 minutes is recommended.

## Is there a temperature when it is considered too hot to work?

Exposure to high temperatures can lead to serious medical situations. There are many factors to consider in heat situations such as humidity and heat sources. Therefore, there is not one specific temperature when it is considered too hot to work or when work should stop.

If heat stress is a potential issue, consult Section 44 of the Occupational Health and Safety Regulations which adopted the American Conference of Governmental Industrial Hygienists (ACGIH) Heat Stress Threshold Limit Value (TLV) guidelines. These refer to specific wet bulb globe temperatures and a work-rest schedule to prevent the development of heat related illness.

[www.assembly.nl.ca/legislation/sr/regulations](http://www.assembly.nl.ca/legislation/sr/regulations)

### LEGISLATION

#### Thermal Environment

44. (1) An employer shall ensure that a thermal environment which is reasonable and consistent with the nature and degree of the work performed, as established by the ACGIH, is provided and maintained in a workplace.

(2) An employer shall provide appropriate and suitable monitoring equipment in a workplace where the thermal environment is likely to pose a hazard to a worker.

(3) Under unusually hot or cold working conditions an employer shall make further provision for the health and safety and reasonable thermal comfort of a worker, which may include:

- (a) regular monitoring, posting of warning devices and additional first aid measures;
- (b) provision of special equipment and clothing;
- (c) provision of screens or shelters;
- (d) medical supervision, hot or cold drinks and acclimatization procedures;
- (e) limited work schedules with rest periods; and
- (f) other appropriate controls and measures.

(4) In a workplace, an open flame, steampipe or other high temperature source shall be identified at the source and positioned or shielded to prevent contact by a worker, unless the exposed source is necessary for work processes and cannot be appropriately controlled by engineering means.

(5) Where a source referred to in subsection (4) is necessarily exposed, a worker shall wear appropriate personal protective equipment.

Aside from heat stress, many workers are concerned about thermal comfort. For instance, in office environments it is unlikely that the ACGIH limits will be exceeded. In these workplaces you should reference CSA standard Z412-00 (R2011) – Office Ergonomics for acceptable limits for thermal comfort.

For more information on physical agents and thermal comfort in office environments:

[www.ccohs.ca/oshanswers](http://www.ccohs.ca/oshanswers)