HEAT STRESS

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CANADA HSE GUIDELINE

ConocoPhillips Canada

Purpose: To provide guidance on preventing illness due to heat stress.

Heat Stress Potential

The potential for heat stress should be considered during work planning. Consider the following:

- Ambient and radiant temperatures
- Humidity
- Physical demands of the work.

Personal factors which may increase the risk of heat stress include:

- Age and Physical Condition
- Certain diseases (e.g. multiple sclerosis)
- Certain medications (allergy or blood pressure medications)
- Hydration and Acclimatization
- Clothing.

Signs and Symptoms

The following signs and symptoms are the first signs and symptoms of heat exhaustion:

- Confusion
- Dark-coloured urine
- Dizziness
- Nausea, vomiting, or diarrhea
- Fainting
- Fatigue
- Headache
- Muscle or abdominal cramps.

CAUTION: With any of the above symptoms seek assessment from a medical professional.

Defenses

The following defenses should be considered to prevent heat stress:

- Isolate worker from heat source
- Isolate radiant heat source
- Work-rest schedule (see table below)
- Work scheduling (e.g., time of day, equipment downtime)
- Light, breathable fabrics and cooling vests.

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Heat Response Guidance Table

Moderate physical work, un-acclimatized worker **Temperature (°C/°F)**	**Response**	**Moderate physical work, acclimatized worker, or light physical work un-acclimatized worker.** **Temperature (°C/°F)**
24-27/75-81	• Supply water to workers as needed.	29-31/84-88
28-29/82-84	• Post heat stress alert notice. • Encourage workers to drink extra water. • Ensure workers are able to recognize symptoms.	32-33/89-92
30-32/86-90	• Post heat stress warning notice. • Remind workers that they need to drink extra water. • Ensure workers are trained to recognize symptoms.	34-35/93-95
33/91	• Provide 15 minutes relief per hour • Provide adequate cool (10-15°C/ 50-59°F) water • Remind workers to drink at least 1 cup (250 mL) of water every 20 minutes. • Workers with symptoms should seek medical attention.	36/96-97
34/92-93	• Provide 30 minutes relief per hour in addition to the provisions listed previously.	37/98-99
35-36/94-97	• If feasible provide 45 minutes. relief per hour in addition to the provision listed above • If a 75% relief period is not feasible then stop work until the temperature drops from extreme ranges	38/100
37/98 and over	• Closely monitor workers. • If manageable, stop work until the above ranges for humidex are met.	39/101 and over

Sources: This table was created by CPC using: Occupational Health Clinics for Ontario Workers (OHCOW) - "Humidex Based Heat Response" and Environment Canada "Humidex from Temperature and Relative Humidity Readings".

LOW
MED
MODERATE
HIGH
EXTREME

Note: At Humidex exposures above 45, heat stress should be managed as per the ACGIH TLV®.
Note: Round measured temperatures up.

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