

Indoor Heat Stress Warning

Where the Humidex is greater than 34, to be posted at specific workplaces. General warnings will be posted on the OHS Bulletin Board and the OHS Website <http://www.smu.ca/administration/ohs/>

Saint Mary's University recognizes the potential problems caused by high temperatures in the work environment or associated with sports activities. Heat Stress Guidelines, based on a Humidex value and modified to consider activity level and clothing, have been established to prevent the occurrence of heat related illness.

The Humidex is determined by measurement of indoor air (dry bulb) temperature and relative humidity at desktop height at the location where the activity is being done. The Humidex is then read from the chart on page two of this document.

The Heat Response Guidelines for Indoor Work or Sports Activity are listed for each Humidex range on page 3 of this document. Please note that a Humidex adjustment might be required, depending on the clothing being worn.

A significant contributor to heat stress is the amount of heat generated by the metabolic activity of the individual, which is why the Heat Stress Guidelines are linked to the activity level or work load:

- **Rest:** sitting quietly or with moderate arm movements (e.g.: reading, working at a computer, or attending a lecture)
- **Light Work or Activity:** sitting or standing to control equipment, performing light hand or arm work with occasional walking (e.g.: laboratory analyses, giving a lecture, driving a car, making field observations, piloting a power boat, using a table saw, or operating a floor polisher)
- **Moderate Work or Activity:** Walking with moderate pushing or pulling, walking at a moderate pace (e.g.: stocking shelves with moderately heavy items, scrubbing in a standing position, sweeping floors or sidewalks, operating a walk-behind lawn mower, or field work requiring the carrying of equipment,)
- **Heavy Work or Activity:** pick and shovel work, carrying, pushing or pulling heavy loads, walking at a fast pace (e.g.: a carpenter sawing by hand, rowing a boat, field work requiring hiking with a backpack, or playing tennis or soccer)
- **Very Heavy Work or Activity :** very intense activity at fast to maximum pace (e.g.: shovelling wet sand, maximum sports exertion such as running a 400 metre race)

Employees or sports persons should govern their activities by the Heat Response Guidelines on page 3 of this document. If any time, you believe your physical health

and safety is being affected by the workplace environment or task you are performing, contact your direct supervisor immediately.

Further information on heat stress topics is available on the Saint Mary's University OHS Site: <http://www.smu.ca/administration/ohs/>

- Saint Mary's Heat Stress Guidelines Policy
- Occupational Health and Safety: Thermal Comfort and Heat Stress
- Occupational Health and Safety: Heat Stress Alert Notice
- Occupational Health and Safety: Outdoor Heat Stress Warning Notice
- Occupational Health and Safety: Health Effects of Heat Stress
- Occupational Health and Safety: First Aid Treatment of Heat Stress

Humidex

Read the Humidex from the following chart by finding the number where the dry bulb temperature (°C) intersects with the relative humidity (%).

		RELATIVE HUMIDITY (%)																																						
		100%	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%	45%	40%	35%	30%	25%	20%	15%	10%																				
49																				50	49																			
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40																				49	47	45	43	41	39	40														
39																					49	47	45	43	41	39	39													
38																					49	47	45	44	42	40	38	36	38											
37																					49	47	45	44	42	40	38	37	35	37										
36																					50	49	47	45	44	42	40	39	37	35	34	36								
35																					50	48	47	45	44	42	40	39	37	36	34	33	35							
34																					49	48	46	45	43	42	40	39	37	36	34	33	31	34						
33																					50	48	47	46	44	43	41	40	39	37	36	34	33	32	30	33				
32																					50	49	48	46	45	44	42	41	40	38	37	36	34	33	32	30	29	32		
31	50	49	48	47	45	44	43	42	40	39	38	37	35	34	33	32	30	29	28	31	50	49	48	46	45	44	42	41	40	38	37	36	34	33	32	30	29	28	31	
30	48	47	46	44	43	42	41	40	39	37	36	35	34	33	32	30	29	28	27	30	48	47	46	44	43	42	41	40	39	37	36	35	34	33	32	30	29	28	30	
29	46	45	43	42	41	40	39	38	37	36	35	33	32	31	30	29	28	27	26	29	46	45	43	42	41	40	39	38	37	36	35	34	33	32	30	29	28	27	26	29
28	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	28	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	28
27	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25			27	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25		27	
26	39	38	37	36	35	34	34	33	32	31	30	29	28	27	26	25				26	39	38	37	36	35	34	34	33	32	31	30	29	28	27	26	25		26		
25	37	36	35	34	34	33	32	31	30	29	28	27	27	26	25					25	37	36	35	34	34	33	32	31	30	29	28	27	26	25		25				
24	35	34	33	33	32	31	30	29	28	28	27	26	25							24	35	34	33	33	32	31	30	29	28	28	27	26	25		24					
23	33	32	32	31	30	29	28	28	27	26	25									23	33	32	32	31	30	29	28	28	27	26	25		23							
22	31	30	30	29	28	27	27	26	25	25										22	31	30	30	29	28	27	27	26	25	25		22								
21	29	29	28	27	27	26	25													21	29	29	28	27	27	26	25				21									

Acknowledgement: This chart is copied, with permission, from the Heat Stress Awareness Guide published by the Occupational Health and Safety Council of Ontario, 2007.

Humidex-Based Heat Response Guidelines
for Indoor Work or Sports Activities

(for un-acclimatized employees doing light to moderate physical indoor work, such as desk work, classroom instruction, laboratory work or custodial and maintenance work, and for indoor sports activities)

Note: Take the Humidex value from the Chart in Appendix A and modify it for a clothing adjustment, if required. The guidelines assume regular summer clothes, including light shirt and pants, underwear and shoes. For an employee who must wear full cotton overalls over their clothes, 5° should be added to the Humidex value. Other clothing configurations should be prorated accordingly. For example, gloves, apron and protective sleeves or a lab coat over summer clothes would add 2° to the Humidex value.

Humidex*	Heat Response Guidelines (Indoor)
30-33 Low	Post Heat Stress Alert Notice Encourage employees/sportspersons to drink extra water Start recording dry bulb air temperature and relative humidity
34-37 Low	Post Heat Stress Warning Notice Notify employees/sportspersons that they need to drink extra water Ensure employees/sportspersons are trained to recognize symptoms of heat stress
38-39 Medium	Provide employees/sportspersons with 15 minutes relief/rest break per hour, preferably in an air conditioned or cool location Provide adequate cool (10-15°C) water Encourage employees/sportspersons to drink at least 1 cup (240 ml) of water every 20-30 minutes Ensure that persons with symptoms of heat stress get medical attention
40-41 Moderate	Provide employees/sportspersons with 30 minutes relief/rest break per hour, preferably in an air conditioned or cool location Provide adequate cool (10-15°C) water Encourage employees/sportspersons to drink at least 1 cup (240 ml) of water every 15-20 minutes Ensure that persons with symptoms of heat stress get medical attention
42-44	If feasible to continue work or sports activity, provide employees/sportspersons with 45 minutes relief/rest break per hour, preferably in an air conditioned or cool location Provide adequate cool (10-15°C) water Encourage employees/sportspersons to drink at least 1 cup (240 ml) of water every 10-15 minutes Ensure that persons with symptoms of heat stress get medical attention
45 or over Extreme	Hazardous to continue physical activity Stop work or sports activity until Humidex is 44 or less Only medically supervised work or sports activity can continue

* Use clothing-adjusted Humidex as described in Note above.