



## Procedure

Saskatoon & Area - Occupational Health & Safety

**Number:** 53-010

**Title:** Physical Hazard:

Thermal Conditions: Indoor/Outdoor Heat

**Saskatchewan Employment Act:**

**OHS Regulation:** 70

**Date:** January 1, 2017

**Date Revised/Reaffirmed:** May 28, 2018

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### Purpose

The purpose of this procedure to establish the processes to follow to ensure safe work practices by reducing the risk of heat stress

### Procedure

Manager/Supervisor:

- To ensure appropriate thermal conditions of provided, the manger/supervisor should identify locations where temperature and humidity should be monitored
- Should have a thermal hygrometer (available at hardware or office supply stores for \$20-60) installed to measure the temperature and humidity
- Measurements should be taken and recorded regularly if the Humidex is above 30<sup>0</sup> C or temperature is above 26<sup>0</sup>C. Use the [Humidex Heat Stress Response Plan](#) table to determine the Humidex value and appropriate heat stress prevention response
- When required the manager/supervisor must implement a Heat Stress Response plan which may include the following:
  - Use engineering controls: At the source, use local exhaust to remove heat from hot work processes, shut down office equipment, at least overnight or when able, to reduce the amount of heat emanating from equipment
  - Along the path: Use blinds to shield or block sun's rays, use spot cooling such as portable air conditioning for hot areas, use pans of ice in front of fan to blow cooler air, keep windows closed to prevent hot air from entering area
  - At the worker: relocate to another area for rest breaks from the temperature, implement a job rotation so workers are not exposed to heated areas for an inordinate amount of time
  - Use safer work systems: Monitor temperature and humidity with a thermal hygrometer
  - Provide administrative controls: Train workers to recognize the early signs and symptoms of heat stress and what to do to prevent those, when necessary, workers need to be able to alter their pace of work, rest breaks and fluid intake in response to early symptoms
- Must ensure Facilities Management is notified when temperature and humidity exceeds 30<sup>0</sup>C because of the mechanical failure. These situations should also be reported to the Safety Alert System.

Worker:

- Should be trained to assist in monitoring, documentation and the actions required by Heat Response Plan
- Report any heat stress symptoms or near miss conditions to manager/supervisor and the Safety Alert System/Incident Reporting Line

**Non-Compliance/Breach:**

Non-compliance with this procedure will result in a review of the incident. A review for non-compliance may result in disciplinary action, up to and including termination of employment or privileges; fines and /or prosecution of individuals under the Act.

**References**

- CCOHS Humidex Rating and Work: [www.ccohs.ca/oshanswers/phys\\_agents/humidex.html](http://www.ccohs.ca/oshanswers/phys_agents/humidex.html)
- CCOHS Thermal Comfort for Office Work: [https://www.ccohs.ca/oshanswers/phys\\_agents/thermal\\_comfort.html](https://www.ccohs.ca/oshanswers/phys_agents/thermal_comfort.html)

Review Dates:

January 1, 2017

May 28, 2018



## Humidex Heat Stress Response Plan Table

Temp (in C)	Relative Humidity (in %)																														
	100%	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%	45%	40%	35%	30%	25%	20%	15%	10%												
49	<b>NEVER IGNORE ANYONE'S SYMPTOMS DESPITE MEASUREMENTS!!!</b>																		50												
48																			49												
47																			<b>Moderate Unacclimatized &amp; Heavy Acclimatized</b>	<b>Action</b>						Moderate	50	47			
46																										Acclimatized	49	46			
45																										& Light	50	47	45		
44																										Unacclimatized	49	46	43		
43																			45+	Only medically supervised work						50+*	49	47	45	42	
42																			42-44	Work with 45 min/hr relief						47-49*	50	48	46	43	41
41																			40-41	Work with 30 min/hr relief						45-46*	48	46	44	42	40
40																			38-39	Work with 15 min/hr relief						43-44	49	47	45	43	41
39	34-37	Warn for symptoms & extra water						40-42	49	47	45	43	41	39	37																
38	30-33	Alert for symptoms & extra water						36-39	49	47	45	43	42	40	38	36															
37	25-29	Water as needed						32-35	49	47	45	44	42	40	38	37	35														
36	<b>For Humidex 45+, heat stress should be managed as per the ACGIH TLV</b>								50	49	47	45	44	42	40	39	37	35	34												
35									50	48	47	45	43	42	40	39	37	36	34	33											
34								49	48	46	45	43	42	40	39	37	36	34	33	31											
33							50	48	47	46	44	43	41	40	39	37	36	34	33	32	30										
32						50	49	48	46	45	44	42	41	40	38	37	36	34	33	32	30	29									
31	50	49	48	47	45	44	43	42	40	39	38	37	35	34	33	32	30	29	28	28											
30	48	47	46	44	43	42	41	40	39	37	36	35	34	33	31	30	29	28	27	27											
29	46	45	43	42	41	40	39	38	37	36	35	33	32	31	30	29	28	27	26	26											
28	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	25											
27	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25														
26	39	38	37	36	35	34	33	33	32	31	30	29	28	27	26	25															
25	37	36	35	34	33	33	32	31	30	29	28	27	26	26	25																
24	35	34	33	33	32	31	30	29	28	28	27	26	25																		
23	33	32	31	31	30	29	28	28	27	27	25																				
22	31	30	30	29	28	27	27	26	25	25																					
21	29	29	28	27	26	26	25																								
	100%	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%	45%	40%	35%	30%	25%	20%	15%	10%												