**Heat Stress Risk Assessment for Outdoor Workers:**

**Daily Assessment Record for the Humidex**

*Please complete one Daily Assessment Record for each Measurement Date & Time.*

**Date:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Time:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Workplace Name & Address:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Measurement Location Details:**

|  |  |  |
| --- | --- | --- |
| Location # | Location Details | Workers/Jobs/Positions Exposed |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |

**Assessment:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Criteria | Location 1 | Location 2 | Location 3 | Location 4 |
| Measurement Equipment Used |  |  |  |  |
| Person Undertaking Measurement |  |  |  |  |
| Measured Humidex (oC) |  |  |  |  |
| Clothing Adjustment (refer Table 1) |  |  |  |  |
| Radiant Heat Adjustment (refer to Table 2) |  |  |  |  |
| Adjusted Humidex (oC) |  |  |  |  |
| Work/metabolic rate of workers (to note, refer Table 3) | L / M / H / VH | L / M / H / VH | L / M / H / VH | L / M / H / VH |
| % Work in work/recovery cycle (to note) | 0/25/50/75/100 | 0/25/50/75/100 | 0/25/50/75/100 | 0/25/50/75/100 |
| Acclimatization of workers | Yes / No | Yes / No | Yes / No | Yes / No |
| Response Actions  (Refer to Table 4 & Additional Comments section on Page 4) | **1/2/3/4/5/6/7** | **1/2/3/4/5/6/7** | **1/2/3/4/5/6/7** | **1/2/3/4/5/6/7** |

**Table 1 – Clothing Adjustment Factors**

|  |  |
| --- | --- |
| Clothing Type | Adjustment to Humidex (in oC) |
| Work clothes (long-sleeved shirt and long pants) | 0 |
| Cloth (or woven material) overalls | +5\* |

\*Wearing of cotton overalls on top of lightweight long sleeve shirt & pants is a reference for other clothing configurations based on evaporation resistance of the additional clothing – professional judgement needs to be applied.

**Table 2 – Radiant Heat Adjustment**

|  |  |
| --- | --- |
| Exposure Scenario | Adjustment to Humidex (in oC) |
| Working outdoors in direct sunlight between 10am and 5pm | +2 to +3 (based on amount of cloud cover) |
| Working indoors with exposure to radiant heat source | +2 to +3 |

**Table 3 – Work/Metabolic Rate Categories and Descriptors**

|  |  |  |
| --- | --- | --- |
| Category | Description | Examples |
| Light work (L) | Sitting with light manual work; Standing with light manual work; | Using a table saw, some walking about, operating a crane, truck or other similar vehicle, welding |
| Moderate work (M) | Sustained moderate hand and arm work; Moderate arm, leg and truck work; Pushing or pulling; Normal walking. | Laying brick, walking with moderate lifting or pushing, hammering nails, tying rebar, raking asphalt, sanding drywall |
| Heavy work (H) | Intense arm and trunk work, carrying, shoveling, manual sawing; pushing or pulling heavy loads; walking at fast pace | Carpenter sawing by hand; shoveling dry sand; laying block; ripping out asbestos; scraping asbestos fireproofing material |
| Very heavy work (VH) | Very intense activity at fast pace | Shoveling wet sand; lifting heavy objects |

**Table 4 – Humidex Response Actions**

|  |  |  |  |
| --- | --- | --- | --- |
| Humidex 1 (oC) | Response Actions | | Humidex 2 (oC) |
| 25 – 29 | 1 | Supply water to workers on an ‘as needed’ basis | 32 – 35 |
| 30 – 33 | 2 | Post ‘Heat Stress Alert’ notice  Encourage workers to drink extra water  Start recording hourly temperature and relative humidity | 36 – 39 |
| 34 – 37 | 3 | Post ‘Heat Stress Warning’ notice  Notify workers that they need to drink extra water  Ensure workers are trained to recognize symptoms | 40 – 42 |
| 38 – 39 | 4 | Work with 15 minutes of relief per hour can continue  Provide adequate quantities of cool (10 – 15oC) water  At least one cup (250mL) of water every 20 minutes per worker  Workers with symptoms should seek medical attention | 43 – 44 |
| 40 – 41 | 5 | Work with 30 minutes of relief per hour can continue, in addition to previously listed actions | 45 – 46\* |
| 42 – 44 | 6 | If feasible, work with 45 minutes of relief per hour can continue, in addition to previously listed actions | 47 – 49\* |
| > 45\* | 7 | Only medically supervised work can continue | > 50\* |

Notes on interpreting Table 4:

* At Humidex exposures >45oC, heat stress should be managed according to the ACGIH TLV
* Humidex 1 – this applies to unacclimatized workers undertaking moderate work rate activities **and** to acclimatized workers undertaking heavy work rate activities. *It would be expected that a high proportion of outdoor workers will fall into this Humidex 1 category.* For this group of workers, ‘general control measures’ should be implemented in addition to response actions listed based on the humidex value.
* Humidex 2 – this applies to acclimatized workers undertaking moderate work rate activities **and** to unacclimatized workers undertaking light work rate activities. For these workers, ‘job-specific control measures’ should be undertaken in addition to the ‘general control measures’ and the response actions listed based on the humidex value.

**Additional Comments on Control Measures/Response Actions:**

|  |  |
| --- | --- |
| Location | Comments |
| 1 | Response Action # = |
| 2 | Response Action # = |
| 3 | Response Action # = |
| 4 | Response Action # = |

**Note:** Please refer to the resource *Heat Stress Risk Assessment for Outdoor Workers – Technical Guide* for further details on the role of this *Daily Assessment Record* within a comprehensive approach for assessing heat stress of outdoor workers.

Visit sunsafetyatwork.ca for more information. This resource was prepared by Dr. Thomas Tenkate. Production of this resource has been made possible through financial support from Health Canada through the Canadian Partnership Against Cancer.