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

**Daily Assessment Record for the Wet Bulb Globe Temperature (WBGT)**

*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 WBGT (oC) |  |  |  |  |
| Clothing Adjustment (refer Table 1) |  |  |  |  |
| Adjusted WBGT |  |  |  |  |
| Work/metabolic rate of workers (refer Table 2) | L / M / H / VH | L / M / H / VH | L / M / H / VH | L / M / H / VH |
| % Work in work/recovery cycle | 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 |
| Outcome (refer Table 3) | **1**: < Action Limit**2**: > Action Limit; < TLV**3**: > TLV | **1**: < Action Limit**2**: > Action Limit; < TLV**3**: > TLV | **1**: < Action Limit**2**: > Action Limit; < TLV**3**: > TLV | **1**: < Action Limit**2**: > Action Limit; < TLV**3**: > TLV |
| Response | **1.** No response needed**2**. Implement controls**3**. Implement controls & Further analysis | **1.** No response needed**2**. Implement controls**3**. Implement controls & Further analysis | **1.** No response needed**2**. Implement controls**3**. Implement controls & Further analysis | **1.** No response needed**2**. Implement controls**3**. Implement controls & Further analysis |

**Table 1 – Clothing Adjustment Factors**

|  |  |
| --- | --- |
| Clothing Type | Adjustment to WBGT (in oC) |
| Work clothes (long-sleeved shirt and long pants) | 0 |
| Cloth (or woven material) overalls | 0 |
| SMS polypropylene coveralls | +0.5 |
| Polyolefin coveralls | +1 |
| Double-layer woven clothing | +3 |
| Limited-use vapor-barrier coveralls | +11 |

**Table 2 – 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 3 – Screening Criteria for TLV and Action limit for Heat Stress**

|  |  |  |
| --- | --- | --- |
| Allocation of work in a cycle of work and recovery | TLV (in oC) | Action Limit (in oC) |
| Light | Moderate | Heavy | Very Heavy | Light | Moderate | Heavy | Very Heavy |
| 75 – 100% | 31.0 | 28.0 | - | - | 28.0 | 25.0 | - | - |
| 50 – 75% | 31.0 | 29.0 | 27.5 | - | 28.5 | 26.0 | 24.0 | - |
| 25 – 50% | 32.0 | 30.0 | 29.0 | 28.0 | 29.5 | 27.0 | 25.5 | 24.5 |
| 0 – 25% | 32.5 | 31.5 | 30.5 | 30.0 | 30.0 | 29.0 | 28.0 | 27.0 |

The following actions are taken in response to the comparison of the assessed values with the above ‘screening criteria’ (Table 3):

* Action 1: If the assessed value is below the Action Limit for the given work/rest cycle and work rate, then it is considered that there is little risk of excessive exposure to heat stress.
* Action 2: If the assessed value is above the Action Limit but below the TLV for the given work/rest cycle and work rate, then ‘general control’ measures should be considered.
* Action 3: If the assessed value is above the TLV for the given work/rest cycle and work rate, then further detailed analysis needs to be undertaken by an appropriately qualified person.

**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.