|  |  |  |  |
| --- | --- | --- | --- |
| 1. Hazard Management Details – General | | | |
| **Plant/Equipment Item: Bunsen & Meker Burner** | **Make/Model No.:** | | **Serial No.:** |
| **School / Work Location:** | **Region:** | | |
| **Name of Person(s) Conducting Activity:** | | | **Date Conducted:** |
| Meker Burner   699069Bunsen Burner   1070996_bunsen_burner | | **Description of Use:**  **Bunsen**  A Bunsen burner is a small gas burner commonly used in laboratories, consisting essentially of a gas source and a hollow tube with an adjustable opening at the base to admit air.  A smokeless, non-luminous flame of high temperature is produced.  **Meker**  A Meker burner differs from a typical Bunsen burner in that it has a constriction in the tube and a grid at the top of the burner which creates a flame that is hotter than the flame of a standard Bunsen burner. | **Summary of Key Risks:**  **(refer to appropriate subsections)**     * Temperature * Slips/trips/falls * Fire and Explosion |

Plant and Equipment Risk Management Form

|  |  |  |
| --- | --- | --- |
| 2. Documentation | | |
| **Relevant Legislation/Standards** | **Y / N** | **Comments** |
| **Is plant required to be registered?** | Y  N |  |
| **Is a user license required?** | Y  N |  |
| **Key Reference material** |  |  |
| **Plant Documentation** | **Y / N** | **Comments** |
| **Are operator’s manuals accessible?** | Y  N |  |
| **Is this a restricted use item?** | Y  N |  |
| **Does this item require safe use documents/test?** | Y  N |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 3. Hazard Identification | |  | | | | |
| **Hazards Inspected** | | **Risk Assessment** | | | **Description of Risk** | **Control Measures** |
|  | | **Cons** | **Like** | **Risk**  **Level** |  |  |
| **ENTANGLEMENT**  Can anyone’s hair, clothing, gloves, cleaning brushes, tools, rags or other materials become entangled with moving parts of the plant or materials? | Y  N |  |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Hazards Inspected | | Risk Assessment | | | Description of Risk | Control Measures |
|  | | **Cons** | **Like** | **Risk**  **Level** |  |  |
| **IMPACT AND CUTTING INJURIES**  Can anyone be crushed/cut/struck etc. due to: |  |  |  |  |  |  |
| * Material falling off the plant? | Y  N |  |  |  |
| * Uncontrolled/unexpected movement of plant/load? | Y  N |  |  |  |
| * Lack of capacity to slow, stop or immobilise plant? | Y  N |  |  |  |
| * The plant tipping or rolling over? | Y  N |  |  |  |
| * Parts of the plant disintegrating or collapsing? | Y  N |  |  |  |
| * Contact with moving parts during testing, inspection, operation, maintenance, cleaning or repair? | Y  N |  |  |  |
| * Being thrown off or under the plant? | Y  N |  |  |  |
| * Contact with sharp or flying objects? (e.g. work pieces being ejected) | Y  N |  |  |  |
| * The mobility of the plant? | Y  N |  |  |  |
| * Inappropriate parts and accessories being used? | Y  N |  |  |  |
| * Other | Y  N |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Hazards Inspected | | Risk Assessment | | | | Description of Risk | Control Measures |
|  | | **Cons** | **Like** | **Risk**  **Level** |  | |  |
| **SHEARING**  Can anyone’s body parts be sheared between two parts of plant, or between a part of the plant and a work piece or structure? | Y  N |  |  |  |  | |  |
| **PRESSURISED CONTENT**  Can anyone come into contact with fluids or gases under high pressure, due to plant failure or misuse of the plant? | Y  N |  |  |  |  | |  |
| **ELECTRICITY**  Can anyone be injured or burnt due to: |  |  |  |  |  | |  |
| * Live electrical conductors? (*e.g.* exposed wires) | Y  N |  |  |  |
| * Working in close proximity to electrical conductors? | Y  N |  |  |  |
| * Access to electricity? | Y  N |  |  |  |
| * Damaged or poorly maintained electrical leads, cables or switches? | Y  N |  |  |  |
| * Water near electrical equipment? | Y  N |  |  |  |
| * Lack of isolation procedures? | Y  N |  |  |  |
| * Other | Y  N |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Hazards Inspected | | Risk Assessment | | | Description of Risk | Control Measures |
|  | | **Cons** | **Like** | **Risk**  **Level** |  |  |
| **ERGONOMICS**  Can anyone be injured due to: |  |  |  |  |  |  |
| * Poorly designed workstation? | Y  N |  |  |  |
| * Repetitive body movement? | Y  N |  |  |  |
| * Constrained body posture or the need for excessive effort? | Y  N |  |  |  |
| * Design deficiency causing psychological stress? | Y  N |  |  |  |
| * Inadequate or poorly placed lighting? | Y  N |  |  |  |
| * Does the plant impact on the surrounding workplace and create potential hazards? (Consider potential impact on the design and layout of the workplace) | Y  N |  |  |  |
| * Is the location of the plant inappropriate? (Consider potential effects due to environmental conditions and terrain) | Y  N |  |  |  |
| * Other | Y  N |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Hazards Inspected | | Risk Assessment | | | Description of Risk | Control Measures |
|  | | **Cons** | **Like** | **Risk Level** |  |  |
| **RADIATION**  Can anyone using the plant, or in the vicinity of the plant suffer injury or illness due to exposure to radiation in the form of any of the following:   * infra-red radiation * ultra violet light * microwaves | Y  N |  |  |  |  |  |
| **NOISE**  Can anyone using the plant, or in the vicinity of the plant, suffer injury due to exposure to noise? | Y  N |  |  |  |  |  |
| **VIBRATION**  Can anyone be injured or suffer ill-health from exposure to vibration? | Y  N |  |  |  |  |  |
| **FRICTION**  Can anyone be burnt due to contact with moving parts, materials or surfaces of the plant? | Y  N |  |  |  |  |  |
| **SUFFOCATION**  Can anyone be suffocated due to lack of oxygen, or atmospheric contamination? | Y  N |  |  |  |  |  |
| **CONDITION**  Is a hazard likely due to the age and condition of the plant? (*Consider how hard the machine has been worked, and whether it is used constantly or rarely).* | Y  N |  |  |  |  |  |
| * Can anyone be injured as a result of the plant not serviced appropriately and/or maintained in line with manufacturer’s recommendations? | Y  N |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Hazards Inspected | | Risk Assessment | | | Description of Risk | Control Measures |
|  | | **Cons** | **Like** | **Risk**  **Level** |  |  |
| **SLIPS/TRIPS/FALLS**  Can anyone using the plant, or in the vicinity of the plant, slip, trip or fall due to: |  |  |  |  | Poor housekeeping allowing the build-up of waste materials or failure to immediately clean up spills could result in a slip hazard.  Inappropriate placement of objects (e.g. spare material, electrical cords, bags etc.) in the immediate vicinity of the equipment may result in a trip hazard. | Ensure appropriate cleaning and housekeeping practices are maintained to minimise the risk of a slip/trip/falls hazard. |
| * Uneven, slippery or steep work surfaces? | Y  N |  |  |  |
| * Poor housekeeping, e.g. spillage in the vicinity? | Y  N | Minor | Possible | Medium |
| * Obstacles being placed in the vicinity of the plant? | Y  N | Minor | Possible | Medium |
| * Inappropriate or poorly maintained floor or walking surfaces (i.e. lack of a slip-resistant surface, unprotected holes, penetrations or gaps?) | Y  N |  |  |  |
| If operating or maintaining plant at height can anyone slip, trip or fall due to: |  |  |  |  |
| * Use of work platforms, stairs or ladders? | Y  N |  |  |  |
| * Lack of guardrails or other suitable edge protection? | Y  N |  |  |  |
| * Other | Y  N |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Hazards Inspected | | Risk Assessment | | | | Description of Risk | | Control Measures |
|  | | **Cons** | | **Like** | **Risk**  **Level** |  | |  |
| **FIRE AND EXPLOSION**  Can anyone be injured by fire? | Y  N | Moderate | | Possible | Medium | Exposed naked flame is an ignition source.  Explosion risk if gas build-up occurs (e.g. gas left on). | | Ensure appropriate PPE is worn whilst operating the Bunsen or Meker burner (e.g. eye protection, gloves).  Ensure gas is turned off when not in use.  Ensure appropriate firefighting equipment/systems are in place. |
| * Can anyone be injured by explosion of gases, vapours, liquids, dusts, or other substances? | Y  N | Major | | Unlikely | Medium |
| **TEMPERATURE/MOISTURE**  Can anyone come into contact with objects athigh or low temperatures? | Y  N | Moderate | | Likely | High | Objects used in conjunction with the Bunsen or Meker burner will become very hot. | | Ensure appropriate PPE is worn whilst operating the Bunsen or Meker burner (e.g. eye protection, gloves, lab coat).  Always use appropriate equipment to handle hot items (e.g. tongs, gloves).  Allow hot items to cool before storage and handling.  Ensure appropriate firefighting equipment/systems are in place. |
| * Can anyone suffer ill-health due to exposure to high or low temperatures? | Y  N |  | |  |  |
| * Can anyone be injured or suffer ill-health due to exposure to moisture? | Y  N |  | |  |  |
| **OTHER** Can anyone be injured or suffer ill-health from exposure to: |  |  | |  |  |  | |  |
| * Chemicals? | Y  N |  | |  |  |
| * Toxic gases or vapours? | Y  N |  | |  |  |
| * Fumes/Dusts? | Y  N |  | |  |  |
| * Other? (please specify) | Y  N |  | |  |  |
| **4. Risk Assessment Signoff** | | | | | | | | |
| Authorised By: | | | Signature: | | | | Date: | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Consequence - Evaluate the consequences of a risk occurring according to the ratings in the top row  |  |  |  | | --- | --- | --- | | Descriptor | Level | Definition | | **Insignificant** | **1** | No injury | | **Minor** | **2** | Injury/ ill health requiring first aid | | **Moderate** | **3** | Injury/ill health requiring medical attention | | **Major** | **4** | Injury/ill health requiring hospital admission | | **Severe** | **5** | Fatality |   3. Risk level - Calculate the level of risk by finding the intersection between the likelihood and the consequences   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Likelihood | Consequence | | | | | | **Insignificant** | **Minor** | **Moderate** | **Major** | **Severe** | | **Almost Certain** | Medium | High | Extreme | Extreme | Extreme | | **Likely** | Medium | Medium | High | Extreme | Extreme | | **Possible** | Low | Medium | Medium | High | Extreme | | **Unlikely** | Low | Low | Medium | Medium | High | | **Rare** | Low | Low | Low | Medium | Medium | | Likelihood - Evaluate the likelihood of an incident occurring according to the ratings in the left hand column  |  |  |  | | --- | --- | --- | | Descriptor | Level | Definition | | **Rare** | **1** | May occur somewhere, sometime (“once in a life time / once in a hundred years”) | | **Unlikely** | **2** | May occur somewhere within the Department over an extended period of time | | **Possible** | **3** | May occur several times across the Department or a region over a period of time | | **Likely** | **4** | May be anticipated multiple times over a period of time  May occur once every few repetitions of the activity or event | | **Almost Certain** | **5** | Prone to occur regularly  It is anticipated for each repetition of the activity of event |   4. Risk Level/Rating and Actions   |  |  | | --- | --- | | Descriptor | Definition | | **Extreme:** | Notify **Workplace Manager and/or Management OHS Nominee** immediately. Corrective actions should be taken immediately. Cease associated activity. | | **High:** | Notify **Workplace Manager and/or Management OHS Nominee** immediately. Corrective actions should be taken within 48 hours of notification. | | **Medium:** | Notify **Nominated employee, HSR / OHS Committee**. Nominated employee, OHS Representative / OHS Committee is to follow up that corrective action is taken within 7 days. | | **Low** | Notify **Nominated employee, HSR / OHS Committee**. Nominated employee, HSR / OHS Committee is to follow up that corrective action is taken within a reasonable time. | |