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| **Inventory of Work Activities** | | | | |
| **Reference Number:**  **(please refer to PRS RA Repository for next running number)** | |  | **Division** | Engineering & Operations |
| **Title** | Merged Cell Layout Test | | | |

| Ref | Location | Process | Work Activity | Remarks |
| --- | --- | --- | --- | --- |
| 1 | Chemical Store | Chemical Handling | Chemical dispensing | PPE mandatory |
| Waste disposal | Follow disposal procedures |
| Inventory tracking | Daily stock check |
| 2 | Laboratory | Experiment setup | Transfer sample solutions to TOC sample vials, and load them onto TOC autosampler | Handle with care |
| Switch on/off the TOC analyser | Follow startup procedure |
| Switch on synthetic air gas cylinder | Check pressure gauge |
| 3 | Office | Administration | Data entry and reporting | Daily administrative tasks |
| 4 | Storage Area | Logistics | Inventory management | Stock counting and tracking |
| 5 | Workshop A | Manufacturing | CNC machine operation | Daily production task |
| Equipment maintenance | Weekly preventive maintenance |
| Quality control inspection | Check dimensions and tolerances |
| Material handling | Raw material preparation |
| 6 | Workshop B | Assembly | Product assembly | Main assembly line |
| Final inspection | Quality assurance check |
| 7 | Workshop C | Manufacturing | Machine setup | Different location, same process |
| Production monitoring | Continuous oversight |

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| **RISK ASSESSMENT** | | | | | | | |
| **[Reference Number](https://sitsingaporetechedu.sharepoint.com/sites/SH/Safety-Health-Management/Lists/RiskAssessmentTracker/AllItems.aspx" \o "Reference number generated from Central RA Repository)** |  | | | **RA Leader:** |  | **Approved by:** |  |
| **Title:** |  | | | **RA Team:** |  | **Signature:** |  |
|  |  | | |  |  | **Designation:** |  |
| **Division:** |  | **Location:** |  |  |  |  |  |
| **Last Review Date:** |  | **Next Review Date:** |  |  |  | **Date** |  |

|  | **Hazard Identification** | | | **Risk Evaluation** | | | | **Risk Control** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Ref** | **[Activity](#Activity" \o "Transfer activity listed from the Activity Form )** | **[Hazard](#Hazard" \o "Physical (e.g fire, manual handling), Mechanical (e.g. moving parts), Electrical (e.g. voltage), Chemcial (e.g. toxic), Biological (e.g. virus), Psychosocial (e.g. Fatigue) )** | **[Possible injury / ill-health](#Injury" \o "List all possible injuries/ ill-health (e.g. Musclo-Skeletal Disorder))** | **[Existing risk controls](#Exisiting" \o "Measures that are already in place, or required to be implemented to carry out the work activity. (Elimination, Subsitution, Engineering Controls/ Isolation, Administrative Control, PPE) )** | **[S](#Severity" \o "Severity Rating (1-5))** | **[L](#Likelihood" \o "Likelihood (1-5))** | **[RPN](#RPN" \o "Risk Prioritisation Number (RPN = S x L))** | **[Additional controls](#Additional" \o "Additional measures to be implemented to reduce the risk based on the risk evaluation. (Elimination, Subsitution, Engineering Control/ Isolation, Administrative Control, PPE))** | [**S**](#Severity) | [**L**](#Likelihood) | [**RPN**](#RPN) | **[Implementation Person](#Implementation" \o "Person incharged of the implementation of the additional controls)** | [**Due date**](#Date) | **[Remarks](#Remarks" \o "May highlight residual risk -  Remaining risk after implementation of risk controls, such risk should be acceptable and manageable.)** |
| **Experiment setup** | | | | | | | | | | | | | | |
| 1.1 | Sample handling | Chemical exposure | Skin/eye irritation | PPE, fume hood | 3 | 2 | 6 | Emergency eyewash station | 3 | 1 | 3 | Lab Supervisor | 2024-03-01 | High priority |
| 1.2 | Equipment operation | Electrical hazard | Electric shock | Proper grounding, training | 4 | 1 | 4 | GFCI protection | 4 | 1 | 4 | Electrical Team | 2024-02-15 | Critical safety item |
| **Manufacturing** | | | | | | | | | | | | | | |
| 2.1 | CNC operation | Moving machinery | Crush injury, cuts | Machine guards, emergency stops | 4 | 2 | 8 | Light curtains, additional training | 4 | 1 | 4 | Production Manager | 2024-04-01 | Review monthly |
| 2.2 | Material handling | Manual lifting | Back injury, strain | Lifting equipment, training | 2 | 3 | 6 | Ergonomic assessment | 2 | 2 | 4 | Safety Officer | 2024-03-15 | Include in safety briefing |
| **Chemical Handling** | | | | | | | | | | | | | | |
| 3.1 | Chemical dispensing | Chemical spills | Chemical burns, inhalation | Spill kits, PPE, ventilation | 3 | 2 | 6 | Automated dispensing system | 3 | 1 | 3 | Chemical Safety Team | 2024-05-01 | Budget approval required |

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| Level | Severity | Description |  | Level | Likelihood | Description |
| 1 | Negligible | Negligible injury. |  | 1 | Rare | Not expected to occur but still possible. |
| 2 | Minor | Injury or ill-health requiring first-aid only (includes minor cuts and bruises, irritation, ill-health with temporary discomfort, fatigue, mental well-being). |  | 2 | Remote | Not likely to occur under normal circumstances. |
| 3 | Moderate | Injury or ill-health (including mental well-being) requiring medical treatment (includes lacerations, burns, sprains, minor fractures, psychosocial stress, dermatitis and work-related upper limb disorders). |  | 3 | Occasional | Possible or known to occur. |
| 4 | Major | Serious injuries or life-threatening occupational diseases (includes amputations, major fractures, multiple injuries, occupational cancers, acute poisoning, diagnosed mental illnesses, disabilities and deafness). |  | 4 | Frequent | Common occurrence. |
| 5 | Catastrophic | Fatality, fatal diseases or multiple major injuries. |  | 5 | Almost certain | Continual or repeating experience. |

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| **Risk score** | **Acceptability of risk** | **Recommended actions** |
| Low  1-3 | Acceptable | No additional risk control measures may be needed.  Frequent review and monitoring of hazards are required to ensure that the risk level assigned is accurate and does not increase over time. |
| Medium  4-12 | Tolerable | A careful evaluation of the hazards should be carried out to ensure that the risk level is reduced to as low as reasonably practicable (ALARP) within a defined time period.  Interim risk control measures, such as administrative controls, may be implemented while long term measures are being established. Management attention is required.  Management attention is required. |
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| High  15-25 | Not acceptable | High Risk level must be reduced to at least Medium Risk before work commences.  There should not be any interim risk control measures and risk control measures should not be overly dependent on personal protective equipment.  If practicable, the hazard should be eliminated before work commences.  Management review is required before work commences. |
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