

**GENERAL RISK ASSESSMENT TEMPLATE**

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| **Work area / operation** | Virtual | | **Assessor’s name** | Lachlan Masters  Sangmim Song  Sai Khuan Main | | | |
| **Other persons consulted** |  | | | | **Date of safety assessment** | | 23/04/22 |
| Subject Coordinator’s Name | Gavin Paul | Lab Supervisor’s Name | | | | Michael Lee | |

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| **ACTIVITY**  - Describe hazardous activities related to the work area or operation. | **ASSOCIATED HAZARDS** | **INHERENT RISK**  - Harm that could occur from these hazards if controls fail or are not in place. | **EXISTING CONTROL MEASURES** | **PROPOSED CONTROL MEASURES**  - Proposed action to minimise risk to an acceptable level. | **RESIDUAL RISK LEVEL** (H,M,L) |
| Electrical cables mishandled | Moving parts, plugin equipment used | Electrical shock, choking hazard, irritation of skin. | Cables are hidden under protected covers on the ground. | Cover/ hide plug in locations such that cables cannot be unplugged. Tie down cables. | L |
| Leaving the robot arm unattended | Moving parts | Malfunction of robot, causing dish washing to be backlogged. Robot causing dishwasher to leak water, leading to flood. | N/A | Implement water level sensors to detect flooding. | L |
| Using inappropriate load on the robot | Moving parts, sharps | Motors in robot arm are unable to pick up tray, causing possible overheating in motors which leads to being broken.  Possible incorrect positions of motor joints, hence robot moving to undesired locations leading to possible collisions or spilling items from tray. | The tray is of a certain size hence only a limited number of objects can fit onto tray, thus limiting the maximum weight of set tray.  Robot will only operate after manual GO button, hence will not operate unless worker is happy with load on tray.  Robot has been chosen due to its sufficient load capacity. | A scale is placed under the loading location of tray, such that the weight of tray can be measured before the robot operates, ensuring it has the appropriate load. | L |
| Robot arm moves incorrectly | Moving parts | Collision with other objects, which can brake items or injury workers. | Emergency stop button to stop operation of robot. Barriers to block people from going near robot operation area. | Monitor joint angles of robot, and if set joint angles are not within certain limit of planned path, the robot stops operating. | L |
| Incorrect manual handling | Sharps | Broken plates, lacerations from sharp objects, overloading tray. | Training of proper handling and robot operation. | Worked is required to wear protective gloves. | L |
| Dishwasher ejects water | Hot water | Slight burn or irritation of skin, increasing chance of a wet floor. | Training of risks associated with operating an industrial dishwasher. Worker is at a sufficient distance away from dishwasher such that water is unlikely to reach. | Worker is required to wear full body clothing. | L |
| Handling of crockery, cracked or broken plates. | Sharps | Lacerations of skin. | Dispose of anything broken or cracked (required by OHS) | Worked is required to wear protective gloves. | L |
| Handling of kitchen pots and pans | Hot objects | Burn of skin. | Training of kitchen operations such that worker knows and understands risks associated. | Worker is required to wear protective heat resistant gloves. | L |
| Wet floor | Slipper surfaces | Slip which can lead to injury. | Proper enclosed shoes with sufficient grip are required. | Introduce mats onto the ground to increase grip. | L |
| Lifting of dishwashing trays | Heavy lifting, lifting awkwardly | Possible back injury. | Training for lifting heavy objects. | Place drying racks in a location that is easily accessible, such that workers do not have to pick up trays from an awkward position. | L |
| Person entering the robot working area | Crash, collision, | person entering robot working area might collide or crash with robot | Pressure mat, glass wall, ir sensors | put danger sign | M |
| Dish falling off the tray | Crash, sharp objects, | dish might fall off the tray due to slippage or not putting it properly in the tray. | Tray have been designed to fit the dish into the place, but possible tray might be damaged and slippage of dishes can occur | frequent tray checks | L |

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| **Approval of assessment** | I am satisfied that the residual risk with existing controls is acceptable XYes ☐No  OR  I am satisfied that that the proposed controls will reduce risk to an acceptable level. ☐Yes ☐No | Signature | **LACHLAN MASTERS**  **SANGMIM SONG**  **SAI KHUAN MAIN** | Date | 23/04/22 |

**Guidance notes for documenting General Risk Assessments**

**ACTIVITY**

**Briefly describe this hazardous work activity -** E.g. Operating, Handling, Using … (Include names) of hazardous equipment, substances or materials used, and any quantities and concentrations of substance(s) or reaction products.

**ASSOCIATED HAZARDS**

**Plant & Equipment** – noise, vibration, moving parts (crushing, friction, stab, cut, shear), pressure vessels, lifts/hoists/cranes, sharps

**Manual Handling** – repetitive movements, lifting awkwardly, lifting heavy objects

**Work Environment** – moving objects, extremes in temperature, isolation, work at height, allergies to animal bedding, dander and fluids, risk of fire/explosion, slippery surfaces/trip hazards

**People** – potentially violent or volatile clients/interviewees

**Communicable Diseases** – exposure to bodily fluids/infectious materials, animal bites and scratches,

**Environmental** – emissions to atmosphere, discharge to soil and water bodies (including stormwater run-off), nuisance noise & odour, poor ventilation/air quality

**Radiation (non-ionizing)** – including lasers, microwaves or UV light

**Electrical** – plug-in equipment used in ‘hostile’ work environment, exposed conductors, high voltage equipment

**Pathogens** – dealings with pathogenic microorganisms such as bacteria, parasites, fungi or viruses

**GMOs** – dealings with genetically modified organisms

**Cytotoxins** – carcinogens, mutagens or teratogens

**Radiation (ionizing)** – Ionizing radiation source such as radioactive substance or radionuclide, or irradiating apparatus

**Chemical** – hazardous substances, dangerous goods, fumes, dust, compressed gas, hazardous waste

**INHERENT RISK**

Provide details of the harm that could be caused to people or the environment if something goes wrong.

For example: inhalation of fumes, laceration, injury to back, infection, burns to skin or eyes.

Think about what could happen if controls fail or are not in place.

**CONTROL MEASURES**

Note the existing and proposed actions to reduce risk to an acceptable level. Apply the “Hierarchy of Controls”, listed below, when deciding the best control measure to apply. Control types closer the top of the list are preferable.

1. Eliminate the hazard. For example: use a different less dangerous piece of equipment, fix faulty machinery, use safer materials or chemicals

2. Isolate the hazard from the people. Separate people from the danger. For example: use shielding, use lifting equipment or trolleys, remove dust or fumes with exhaust system, lock-out machinery.

3. Change the way the job is done. For example: change work practices, provide training, information and signs, develop work procedures.

4. Use personal protective equipment (PPE), noting specific PPE is required for each job. For example: respirator, hearing protection, gloves. Training and information is required for the use of PPE.

**RESIDUAL RISK LEVEL (H, M, L)**

Estimate risk taking into account the way the activity is run and control measures put in place. The level of risk can be determined by combining consequence and likelihood using the risk matrix from below. Residual risk should be reduced to a level acceptable by management.

**CONSEQUENCE OF HARM -** This is how bad it will be if something does go wrong e.g. the number of people that could be harmed, the severity of injury.

**LIKELIHOOD OF HARM** - Chance of harm occurring is affected by the duration of the activity and its frequency; the number of people doing the activity and the level of exposure to the hazard.

