

## Risk Assessment Form

<b>Procedure</b>	Manual Handling Operation of Liquid Nitrogen Supply Tank (300 L)
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<b>Name(s) of person performing the work</b>	Users (Lab manager & Lab Technician & Tenants & Licensee's)		
<b>Name &amp; position of assessor</b>	Khwaja Islam & Laboratory Manager	<b>Signature</b>	
<b>Date of assessment</b>	28/07/2022	<b>RA Number</b>	BioE 0038

### Outline of procedure / activity:

The supply tank is filled once a week (Thursday) and the filling takes place outside the Innovation building at the designated loading bay. The supply tank is moved from the first floor to ground floor via goods lift (not allowed to travel with the supply tank in the lift as it is dangerous) see RA 0034 for the procedure.

### Locations/ Environment:

Liquid nitrogen supply tank (Gross volume 314 L) (low-pressure tank with pressure relief valves) is stored on Level 1 freezer room (696.20.23) (load on wheeled equipment) attached to the cryogenic storage tank. Tare weight is 167kg and full load is 587kg.



### Potential hazards

Questions to consider	If yes, assess risk (L/M/H)	Problems occurring from the task	Action required
Loads – are they: <ul style="list-style-type: none"> <li>• Heavy?</li> <li>• Bulky/unwieldy?</li> <li>• Difficult to grasp?</li> <li>• Sharp, hot, or otherwise potentially damaging to touch?</li> </ul>	M	The load is heavy when full 587kg (tare is 167kg) and bulky & round. There is a handle, which allow a comfortable power grip for pushing the load.	Routine checks and replacement are important to reduce any friction. Load has a service contract and is in a good state of repair.
Individual – Does the job: <ul style="list-style-type: none"> <li>• Require unusual capability?</li> <li>• Hazard those with health problem?</li> <li>• Hazard those who are pregnant?</li> <li>• Needs special training/skills?</li> </ul>	M	The load is heavy, but on castors and it requires high initial force to get the load moving.	Manual handling training required by the worker. Also, practical training from supervisor on moving the load.
Tasks – Do they involve? <ul style="list-style-type: none"> <li>• High initial forces to get the load moving?</li> <li>• Holding loads away from the trunk?</li> <li>• Twisting/manoeuvring of the load into position or around obstacles?</li> <li>• Stooping?</li> <li>• Reaching upwards?</li> <li>• Large vertical movement?</li> <li>• Long carrying distance?</li> </ul>	M	Generally, no, castors have bearing, once in motion it is easy to stir round corners. Moving load by pushing as it is safer to push rather than pull. Torso (posture) is largely upright and is not twisted and hands are between hip and shoulder height. Two-handed operations. The travel distance between 10 m and 30 m. The work pattern is not repetitive (fewer than five transfers per minute), and the pace of work is set by the worker.	Routine checks and replacement are important to reduce any friction.

<ul style="list-style-type: none"> <li>• Strenuous pushing or pulling?</li> <li>• Insufficient rest or recovery?</li> <li>• A work rate imposed by a process?</li> </ul>			
<p>Environment – are there:</p> <ul style="list-style-type: none"> <li>• Constraints on posture?</li> <li>• Poor floors?</li> <li>• Variation in levels?</li> <li>• Hot/cold/humid conditions?</li> <li>• Strong air movements?</li> <li>• Poor lighting conditions?</li> </ul>		<p>Manoeuvring to lift on first floor requires passing around the bend and through double doors. There is a ramp outside lift, which will need little extra force to go over the ramp into the lift at the ground floor. The floor surface is dry and clean, and level and firm and good condition.</p>	<p>Ensure operators, as far as possible, push in an appropriate manner. Avoid lateral side movements. Two person task one to hold the doors open and the lift.</p>
<p>Other factors:</p> <ul style="list-style-type: none"> <li>• Is movement or posture hindered by clothing or personal protective equipment?</li> <li>• Load is unstable;</li> <li>• The load is large and obstructs the workers view of where they are moving;</li> </ul>		<p>General no, PPE worn has no effect on movement i.e. gloves. Load moved by pushing to ensure one has clear vision of route and obstacles.</p>	

<b>Actions Identified</b>	<b>Priority level</b>	<b>Person Responsible</b>	<b>Date Completed or Outcome</b>
Manual handling operation training via University Safety Office	High	Khwaja Islam	Been on University safety course and complete. Received a certificate.
Practical training of load via supervisor.	High	Khwaja Islam	Practical training of load has been complete, and the worker is confident in manual handling of load.



**Review of the Risk Assessment:**

Date of review		Name of reviewer	
Date of next review		Signature	

Have the control measures been effective in controlling the risk?

Yes	No
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Have there been any changes in the procedure or in the information available which affect the estimated level of risk from the listed substances

Yes	No
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What changes to the control measures are required?

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