Risk Assessment Summary Report/Print (landscape)

Reference	3393	**Description of Space or Activity/Task or Equipment**	Working with cryogens (excluding transporting dewars by vehicle).
Assessment Date	27/02/2019	**Publish To Portal**	Yes
Assessor Name	Martin Lees	**Risk Assessment Title**	Working with cryogens (excluding transporting dewars by vehicle).
Assessment Team Members		**Review Date**	18/07/2025
Role / Space / Project Reference		**Current Risk Level (1=Very Low, 2=Low, 3=Moderate, 4=High, 5=Very High)**	2
Department	Use the search function above or double click here for org chart -> Academic Faculties -> Faculty of Science, Engineering and Medicine -> Physics	**Final Risk Level (1=Very Low, 2=Low, 3=Moderate, 4=High, 5=Very High)**	2
Location Details	Physics in rooms P2, P125, P1.26, P127 and P130.	**Not in use**	0
Risk Assessment Category	Activity/Task	**Additional Information**	The space risk assessment for the relevant room(s) must also be read in conjunction with this document. Users must be trained to work with cryogenic liquids.
Date Record Created	18/07/2024		

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Hazard Type & Hazard Description	Who may be at Risk? & How May Person(s) Be Harmed	Existing Control Measures	L	S	R	Where current risk is M, H or VH, what additional Control Measures are required?	L	S	R
People & Wellbeing Cold burns from cryogenic liquid. Cold burns from cold surfaces.	Users and others in the close vicinity, Contact may occur by immersion, spilling and/or splashing onto exposed body parts, or onto clothing where it is retained. User may come into contact with cold surfaces.	Wear suitable PPE and take care when dispensing cryogens. No body parts that could come into contact with cryogenic fluids or cold surfaces should be exposed. Take care when handling containers containing cryogens that the fluid does not get trapped the gloves or other PPE/clothing. Do not immerse any body parts into cryogenic fluids. Do not touch cold surfaces with bare hands.	Serious	Possible	Low		Serious	Possible	Low
People & Wellbeing Risk of oxygen depletion from cryogen boil-off.	Users and others in the vicinity Asphyxiation	Check ventilation in rooms before starting work. Open doors and windows if required. Carefully monitor O2 level sensors where fitted and if the O2 level starts to go down, stop work and if safe to do ventilate the area, if not, evacuate the area. Investigate the cause only when the area is safe to re-enter.	Major	Unlikely	Low		Major	Unlikely	Low

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People & Wellbeing Pressurised liquids and gas	Users and others in the vicinity Risk of spray from pressured cryogenic-fluid delivery points or containers. In extreme cases risk of explosion	Carefully open and close delivery points and make sure all connections are leak tight before commencing work. Check any pressure gauge prior to opening valves. Do not stand in line with vents while opening valves. Ensure that containers are in good condition and any vessel with safety valves etc. are tested and in date. Do not transport or leave liquid in sealed container with no pressure relief valve Report any defective equipment and stop work immediately if found. Routine checks and maintenance to be carried out by a trained technician	Serious	Unlikely	Low		Serious	Unlikely	Low
People & Wellbeing Liquid air condensation	Users and others in the vicinity Oxygen may condense on surfaces that are cooled below ~90 K (-183 C)	Risk of explosion if close to flammable materials and source of ignition.	Minor	Unlikely	Very Low		Minor	Unlikely	Very Low
People & Wellbeing Embrittlement of materials	Users Materials that come into prolonged contact with cryogenic fluids, e.g. rubber and plastic pipes, may become brittle and shatter	Only used approved materials to transfer cryogenic liquids. Ensure any pipework is thoroughly warmed before attempting to reposition pipes	Minor	Unlikely	Very Low		Minor	Unlikely	Very Low
Assessment Conclusion	Risks are acceptable and controls are suitable and sufficient.								