Risk Assessment Summary Report/Print (landscape)

Reference	3498	**Description of Space or Activity/Task or Equipment**	Raman or Photoluminescence measurements conducted at variable temperature using the Linkam Scientific THMS600 or TS1500
Assessment Date	06/09/2024	**Publish To Portal**	No
Assessor Name	Ben Breeze	**Risk Assessment Title**	Variable Temperature Raman/Photoluminescence - Linkam
Assessment Team Members		**Review Date**	No Review Set
Role / Space / Project Reference		**Current Risk Level (1=Very Low, 2=Low, 3=Moderate, 4=High, 5=Very High)**	3
Department	Use the search function above or double click here for org chart -> Academic Faculties -> Faculty of Science, Engineering and Medicine -> Research Technology Platforms - RTPs -> Spectroscopy Research Technology Platform - RTP	**Final Risk Level (1=Very Low, 2=Low, 3=Moderate, 4=High, 5=Very High)**	3
Location Details	Central Campus-Millburn House-Ground Floor-G78 - (01.005.000.051) Spectroscopy RTP Laboratory Millburn House G78	**Risk Assessment Number**	0

Risk Assessment Summary Report/Print (landscape)

Risk Assessment Category	Equipment	**Additional Information**	Users are responsible for having performed a risk assessment for their samples which must be logged at: https://warwick.ac.uk/research/rtp/spectroscopy/Safety/Sample When booking all users will provide a reference to the risk assessment for the sample used. All users will require retraining if they have not operated the system for 18 months. This document only assess the additional hazards posed by the addition of the variable temperature stage and as must be used alongside the relevant spectrometer Risk Assessment, and should be used in conjunction with appropriate spectrometer RA Document History Version Date Reviewer Comments 1 05/01/18 Ben Breeze Re reviewed when Equipment was brought under RTP Control 2 25/01/19 Ben Breeze Scheduled Review. No changes 3 08/09/21 Ben Breeze Scheduled Review Updated Format updated, minor changes to user groups and descrition
Date Record Created	06/09/2024		

Risk Assessment Summary Report/Print (landscape)

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
NIR Class 3B/4 laser or Class 1 laser product Laser strike (burns, loss of sight)	Laboratory Worker Staff Student Laser strike to eye or Skin	dmin - Refer to more detailed risk assessment for Class 3B/4 lasers or for Class 1 laser products. For all Raman/ PL spectrometers Interlocks are overridden so the system is no longer Class one. Eng - With the Probe in place it is impossible to get your eye in the path of laser beam. Eng - The beam is also very divergent after the focal point, See attached table for safe nominal optical hazard Distances for the different Excitation wavelengths. Admin - During setup up, the Lasers must not be turned on until the probe is in place. Eng- All reflective surfaces should be removed from the enclosure Admin = After the probe is in place laser must be kept below 1mW using the built in ND filters. Admin During normal operation a fabric cover will be placed over the enclosure to block all light from escaping. Admin -Laser signage in place to alert other lab users the experiment should not be left unattended with the laser in operation.	Major	Unlikely	Low		Major	Unlikely	Low
Work Environment Temperature (too hot or cold). Contact with hot sample	Laboratory Worker Staff Student burns	Eng - Cooling/heating equipment used. Admin - Awareness training provided. Admin - Safe System of Work (SSoW) established and trained out.	Serious	Unlikely	Low		Serious	Unlikely	Low

Risk Assessment Summary Report/Print (landscape)

Equipment/Plant broken glassware Contact with sharp blade (cuts). Ejection of materials or parts (Struck by) after failure of pressure vessel	Laboratory Worker Staff Student Cuts from shard of glass/metal	Eng/Admin - Access is restricted to authorised personnel. Admin - Good levels of housekeeping maintained with clean as you go policy in place. Admin - Information, instruction, supervision & training. Eng/Admin - pressure realif valves.	Serious	Unlikely	Low		Serious	Unlikely	Low
Electricity Contact with live electrics.	Laboratory Worker Staff Student Electric Shock and/or burns	Eng - Cables and leads are appropriately insulated. Eng - Fixed guarding is in place preventing access. Admin - Awareness training provided. Admin - Portable Appliance Testing (PAT) conducted as per regime. Admin - Safe System of Work (SSoW) established and trained out. Admin - Visual checks completed before use.	Major	Unlikely	Low		Major	Unlikely	Low
Substances Cryogenics Inhalation exposure to hazardous substance. Contact with substances stored at hazardous temperature. Inhalation exposure to hazardous substance.	Laboratory Worker Staff Student Inhalation or ingestion causing loss of consciousness, and or Death	Eng - oxygen depletion sensors throughout lab Admin - Awareness training provided. Admin - Information, instruction, supervision & training. Admin - General ventilation used. Admin - Safe System of Work (SSoW) established and trained out. Admin - Storage in accordance with substance requirement. Admin - University policy & procedure guidance followed. PPE - Personal Protective Equipment (PPE) is issued and worn (Gloves Goggles).	Extreme	Unlikely	Moderate		Extreme	Unlikely	Moderate

Risk Assessment Summary Report/Print (landscape)

Substances Cryogenics Contact with substances stored at hazardous temperature. Contact or interaction with dangerous substances. Eye exposure to hazardous substance. Skin exposure to hazardous substance.	Laboratory Worker Staff Student Contact resulting in cryogenic Burns	Admin - Awareness training provided. Admin - Information, instruction, supervision & training. Admin - General ventilation used. Admin - Safe System of Work (SSoW) established and trained out. Admin - Storage in accordance with substance requirement. Admin - University policy & procedure guidance followed. PPE - Personal Protective Equipment (PPE) is issued and worn (specify).	Serious	Possible	Low		Serious	Possible	Low
Assessment Conclusion	Approved.								