

Risk Assessment Form

Title of Risk Assessment

Date of assessment

Department

Date review due

Description of Task/Process

Assessment carried out by

Additional information

This lab contains 9 functioning instruments DSC-MT, DSC-PE, DSC-TA, TGA-MT, TGAMS, TGA-TA, DMA-MT, DMA-PE & Rheometer, and thermal conductivity. Sample preparation required to make samples instrument ready is typically weighing samples into respective crucibles (TGAs and DSCs) or mounting samples (DMA and rheometer). In these cases contact with the researchers own samples must be taken into account. If users are bringing hazardous substances into the lab they must have their own materials risk assessments. Any other users within the vicinity should be made aware of any substances that they could possibly come into contact with. Gloves, lab coats and safety specs are to be worn as appropriate for sample preparation. Gloves must be removed when using computers to minimise transfer of chemicals.

There is a fumecupboard available for use, if the oxygen depletion alarm sounds, the user should press the extract boost button and inform facility staff.

No instrumentation is to be used other than that which the individual is trained for, however, they should be aware of the temperature and mechanical risks possible in the lab. This includes the furnaces on all 9 DSC, TGA, TC and DMA instruments, and the liquid nitrogen present on the Mettler Toledo and TA DSCs, PE DMA and thermal conductivity.

The lab is an instrumentation lab and is not appropriate for any synthetic work.

For any minor injuries, first aid is available immediately outside of the lab to the right. An eyewash is located at one end of the lab. A list of local first aiders can be found immediately outside of the lab.

A workbench is located in the lab which is only allowed to be accessed by RTP staff.

Lab access is restricted to trained users and a keycode is required to enter the lab. All users are trained and inducted by RTP staff. This includes information on what are the hazards and how to avoid them where possible. Any non-inducted lab visitors will be escorted and prevented from interaction with any equipment.

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<u>Hazards and how they may cause harm</u>	<u>Who may be at Risk?</u>	<u>Existing Control Measures</u>	<u>Current Risk Level</u> (VL,L,M,H,VH)	Where current risk is M, H or VH , what additional <u>Control Measures</u> are required?	Action required by whom & by when?	<u>Final Risk Level</u>
Heat – burning by touching the inner parts of the oven, blow torch, soldering iron	Users of the instrument, cleaners, visitors	Access to internal parts of the furnace is limited and training is given to dissuade users from touching the internal parts. Welding torch and soldering iron kept on separate work bench and only trained persons allowed access. Non-inducted users to be chaperoned by trained member of lab.	L			
Cold burns from Liquid nitrogen.	Users of the instrument, cleaners, visitors	Liquid nitrogen is provided in a sealed, appropriate pressurised dewar. Use of liquid nitrogen is only permitted for trained users. Users of LN2 for DMA are provided thermally	L			

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		resistant gloves for its use and training is given for its use for that particular instrument. As part of training/lab induction users are prohibited from interaction with LN2 or its containers without explicit training. Non-inducted lab users are chaperoned to prevent interaction.				
Asphyxiation from Liquid Nitrogen	Users of the instrument, cleaners, visitors	Transport to and from lab restricted to trained users. Room is large and well ventilated.	M			
Mechanical/moving parts	Users of the instrument, cleaners, visitors	Mechanical risks are minimised by removing those that where possible. Autosamplers on instruments have mechanical arms, however, they are not mechanically strong and are kept within a case when in use. As part of induction users will be taught the associated mechanical risks of the labs and how not to interact with moving parts. Non-inducted users to be chaperoned by trained member of lab.	VL			
Exposure to chemicals from samples (inhalation, skin contact, ingestion)	Users of the instrument, cleaners, visitors	Risk assessments for an individual's materials must be known to the individual, for example those in laboratory books. PPE must be worn where appropriate. Users must take care	Dependent on material. M			

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		not to allow their materials to come into contact with others, and others should not interfere with materials of others. User chemicals to be contained and used within fumecupboard (engineering control) when possible. Any of these chemicals should be present in low quantities (under 100 mg). Eating and drinking prohibited to prevent accidental consumption.				
Exposure to chemicals stored in the labs (inhalation, skin contact, ingestion)	Users of the instrument, cleaners, visitors	The specific risks are covered in the hazard assessment for this lab. Cabinets are provided for solvent and chemical storage. Chemicals stored are kept as low as possible. A fumecupboard is available for chemical manipulation as are gloves and correct disposal. Access to chemicals is limited to laboratory staff. Eye wash provided for accidents. Eating and drinking prohibited to prevent accidental consumption	M	Electronic lab inventory would be useful. ChemTech working to implement new system.		M
Slips, trips and falls.	Users of the instrument, cleaners, visitors	Walkways are kept clear and floors kept clean and dry. Drip trays in place where there is potential for water to pool (i.e. under the liquid nitrogen dewar).	L			

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<p>Fire hazard</p>	<p>Users of the instrument, cleaners, visitors</p>	<p>Fire risk always a possibility. Flammable materials kept to a minimum. Flammable chemicals kept in fire retardant cabinet when not in use. Flammable/explosive gas cylinders present (H2). These are ONLY to be used by very few trained personnel. They are stored in suitable fixtures and are out of the way of the thoroughfare of the lab. Cylinders and regulators are of suitable aged and replaced where necessary. Much electrical equipment present which could lead to electrical fires however, electrical equipment is regulated and tested and no electrical items are overloaded. Fire extinguisher provided for emergencies for use by trained individuals.</p>	<p>M</p>			
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Work should not be carried out until the assessment is completed and all required control measures are in place.

<p>Overall Final Risk Rating (Highest level in final column above)</p>	<p>M</p>
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<p>Additional Comments from Risk Assessor</p>	
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(e.g. funding or practical implications)	
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Approved By	
Date	

Position	Polymer RTP Director
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Please print a copy, sign it and keep for your records

	Severity				
Likelihood	Superficial	Minor	Serious	Major	Extreme
Unlikely	Very low	Very low	Low	Low	Moderate
Possible	Very low	Low	Low	Moderate	High
Likely	Low	Low	Moderate	High	Very high
Very likely	Low	Moderate	High	Very high	Very high
Extremely likely	Moderate	High	Very high	Very high	Very high

Risk Level	
Very low	Acceptable risk - no action required
Low	Tolerable risk - further control measures not required, but status must be monitored
Moderate	Further control measures required to reduce risk as far as is reasonably practical
High	Urgent action required to allow activity to continue
Very high	Risk intolerable - activity must cease until the risk has been reduced

See '[Matrix for risk evaluation](#)' for further guidance.