





HAZARD MANAGEMENT – SAFE OPERATING PROCEDURE (SOP)

Only to be completed where required as a control measure under a Risk Assessment

NAME OF THE TASK/ACTIVITY	AGILENT TRIPLE QUAD 8900 SOLUTION ICPMS AND 7900 ICPMS	DATE: 24/02/2020
LOCATION	ADELAIDE MICROSCOPY, ISOTOPE LABORATORY, HELEN MAYO NORTH, NB45	Insert photo (Optional)
RISK ASSESSMENT (RA) NAME	Agilent 8900 Solution ICPMS and 7900 ICPMS	
Residual risk rating on the RA	<input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/> Very High	
Hazards identified on the RA	Contact with electricity or potential for electric shock Exposure to chemicals, fumes and gases Exposure to UV light	
PERSONAL PROTECTIVE EQUIPMENT		
	Eye protection: <input checked="" type="checkbox"/> Safety glasses <input type="checkbox"/> Eye shields <input type="checkbox"/> Safety goggles <input type="checkbox"/> Other:	
	Hand protection: <input type="checkbox"/> Rubber <input type="checkbox"/> Cut resistant <input type="checkbox"/> Leather <input type="checkbox"/> Vinyl <input type="checkbox"/> Neoprene <input checked="" type="checkbox"/> Nitrile <input type="checkbox"/> Barrier creams <input type="checkbox"/> Other:	
	<input checked="" type="checkbox"/> Enclosed footwear: <input type="checkbox"/> Footwear that is resistant to spills of hazardous substances <input type="checkbox"/> Boots with steel caps <input type="checkbox"/> Other:	
	Protective clothing: <input checked="" type="checkbox"/> Lab coat <input type="checkbox"/> Gown <input type="checkbox"/> Long sleeves <input type="checkbox"/> Long pants <input type="checkbox"/> High visibility <input type="checkbox"/> Helmet <input type="checkbox"/> Sun protection <input type="checkbox"/> Other:	
DESCRIBE, IN SEQUENCE, STEPS TO COMPLETE THE ACTIVITY SAFELY		
Pre-operational checks		
YOU MUST NOT USE THIS MACHINE UNTIL YOU HAVE HAD APPROPRIATE TRAINING BY TRAINED ADELAIDE MICROSCOPY STAFF. Unauthorised use may result in damage to the instrument.		
Operational checks/steps to complete the activity from start to finish (including transport and waste disposal where relevant)		
General		
The Agilent 8900 Triple Quad ICPMS and the 7900 ICPMS are Inductively Coupled Plasma Mass Spectrometers used in the elemental analysis of solutions and solids at trace levels (ppt).		
The instrument uses argon, helium, nitrogen, oxygen and nitrous oxide gases. Only trained Adelaide Microscopy staff are to adjust or replace gas supplies in accordance with the appropriate SOP.		
Samples are introduced to the ICPMS as dilute acids. PPE must be worn at all times when loading and unloading samples from the autosampler.		
Hazards		
Potential for electric shock if a user were to remove panels from the instrument.		
Exposure of eyes to UV light can cause eye damage.		
Exposure to toxic gas can cause respiratory and organ damage.		
Exposure to acidic chemicals can cause burns.		
Risk Control Measures		
Personal Protective Equipment (PPE):		
When loaded and unloading samples, gloves, safety glasses and enclosed footwear must be worn at all times.		

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Engineering controls:

The Agilent 8900 ICPMS is shielded and interlocked system consisting of an Argon Plasma and Quadrupole ICPMS. It is safe to use when operated according to the Agilent 8900 series ICPMS Hardware manual.

The UV light is shielded from the user and interlocked so accidental exposure cannot occur. Under normal operating conditions the instrument is safe to be operated.

The user operable parts on the Agilent 8900 ICPMS are all accessible from the front of the instrument, and include the autosampler, and the computer (mouse and keyboard). There is no risk involved in the operation of these parts. However, misuse of these parts can result in damage to the instrument. Users of the instrument should not remove any fixture or panel from the microscope or access the rear of the instrument.

The lab is fitted with extraction systems which remove large volumes of argon gas from the ICPMS.

The lab is fitted with oxygen sensors – if the level of oxygen in the room falls below a safe level alarms will sound and users should evacuate immediately. The sensors are tested bi-annually.

Procedural controls:

Only trained users to operate the instrument. All new users are to be given practical training in instrument operation by a member or Adelaide Microscopy staff. Users must also follow guidelines in the manual and safe operating procedures for operation of the laser ablation instrument.

The safe handling of general laboratory items is detailed in the Adelaide Microscopy laboratory general safety procedures. Low stocks of consumable items (gloves, paper towel, etc.) should be reported to a member of AM staff

General Procedures:

Users should operate the instrument in accordance with the manufacturer supplied operating instructions under the instruction of a member of Adelaide Microscopy staff.


On completion of work – steps to make safe (including clean up, any waste disposal & service/maintenance requirements)

Follow the shutdown procedure in the manual.

Emergency and Spill Procedures, Transport or storage requirements (where relevant), First aid/Medical

In the event of an injury, please advise an Adelaide Microscopy staff member and first aid officer for treatment and the local HSW representative to report the incident.

Prepared by

People involved in the drafting of this SOP	Aoife McFadden		
Person authorising the SOP	Name:	Angus Netting	Signature
	Position:	Director, Adelaide Microscopy	

This SOP must be reviewed after any incident/injury associated with this activity or when a Risk assessment is reviewed.

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