

**HAZARD MANAGEMENT – SAFE OPERATING PROCEDURE (SOP)**

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

<b>NAME OF THE TASK/ACTIVITY</b>	<b>NIKON NI-E OPTICAL UPRIGHT FLUORESCENCE MICROSCOPE</b>	<b>DATE: 12/02/2020</b>
<b>LOCATION</b>	ADELAIDE MICROSCOPY WAITE FACILITY AFW WEST (BUILDING 19) ROOM G12B	Insert photo (Optional)
<b>RISK ASSESSMENT (RA) NAME</b>	Optical Nikon Upright Research Microscope_RA_Waite	
<b>Residual risk rating on the RA</b>	<input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/> Very High	
<b>Hazards identified on the RA</b>	<b>Contact with electricity or potential for electric shock Exposure to non-ionising radiation (UV light)</b>	

**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 Nikon Ni-E optical upright microscope is used to image slide mounted biological samples, either using bright field or wide-field fluorescence techniques. UV light is used to locate specimens using fluorescence. The UV light source is a Lumencor Sola solid state system containing no mercury.

**Hazards**

Potential for electric shock if a user were to remove panels from the microscope.

Exposure of eyes to UV light can cause eye damage.

**Risk Control Measures**

Engineering controls:

The user operable parts on the Nikon Ni-E scanning confocal microscope are all accessible from the front of the instrument, and include the upright light microscope and controller, the automated stage controller, and the computer (switch, 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 microscope has several inbuilt safety features to stop people injuring themselves with the UV lamp.

The Lumencor solid state UV light source is contained and shielded in a box which cannot be opened accidentally. To allow the UV light to the specimen, the operator must manually operate a button on the computer software. The UV light may also be turned on and off via a shutter on the microscope.

An external orange filter guards the user's eyes from the stage area. The only way to be exposed to UV light at the microscope stage is to deliberately remove the guard or reach around behind the guard.

The Lumencor Sola solid state system requires no warmup or cooldown time and can be switched on and off as required. The light source is expected to last the lifetime of the instrument and requires no monitoring. The light source contains no mercury (unlike more traditional mercury lamp UV light sources), and there is no risk of incorrectly aligning it.

Procedural controls:

The SOP outlines safe operating procedures. All users are given a practical training session in the safe operation of the equipment.

Only trained users to operate the instrument. All new users are to be trained in instrument operation by a member or Adelaide Microscopy staff. Users must also follow guidelines in the manual for operation of the microscope.

Users must not tamper with the instrument such that they can look directly at the UV light.

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Handling of biological material may present hazards; the safe operating procedures for handling biological material must be followed. The handling of other laboratory items (for example, sharps, clearing agents and chemicals) must follow the relevant safe operating procedures.

**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 shut down procedure in the manual.

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

**Prepared by**

People involved in the drafting of this SOP	Gwen Mayo Astrud Tuck		
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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