Microscope Wizards Ltd Risk Assessment & COSHH

Date:	Assessed by:	Position:	Date of last review:
24/04/2017	Alan J Monk	Senior Microscopy Specialist & Engineer	06/01/2025

Task: Microscope servicing.

A service is defined as a complete strip down of the optical components of the microscope which are then cleaned, reassembled (with lubrication as appropriate) and the optical and illumination path are realigned.

Microscope Wizards Ltd is not responsible for the electrical safety testing of customer equipment and does not routinely provide Portable Appliance Testing (PAT) as part of the service. A visual inspection of the electrical components will be made by the engineer before the microscope is plugged in to the mains electricity supply (for the purposes of checking the bulb and alignment of the illumination pathway). If a fault is identified upon visual inspection, then the service will be terminated, and the customer informed and advised to take the defective equipment out of use immediately.

Premises: Microscope Wizards Ltd workshop or customer premises (as defined by the job/customer).

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Risk Assessment					
Activity	**Hazard**	**Who might be harmed and how**	**Existing measures to control risk**	**Risk rating**	**Result**
Working within a laboratory environment – general hazards	Chemical	Engineer	When working at a customer's premises, Engineer should enquire where would be a safe place to perform servicing role to avoid being in close proximity with 'wet' laboratory work. Engineer must wear lab coat and nitrile gloves as minimum PPE when working in a laboratory setting.	Low	A
Movements and Postures	Musculoskeletal injury	Engineer, musculoskeletal pain/injury	Engineer to find a working position that is comfortable and to be aware of exercising good ergonomics at all times during the working day (avoiding stooping, over-reaching, twisting, fixed posture and ensuring there is adequate leg space when seated at a bench/desk). Engineer to avoid spending long periods, standing or sitting, alternate between postures as required to ensure comfort.	Low	A
Manual handling	Lifting, stretching, carrying Use of hand tools – screwdrivers and Allen keys	Engineer, musculoskeletal pain/injury Engineer, musculoskeletal pain/injury	Engineer **must not** lift beyond personal capabilities and exercise good manual handling techniques at all times. Trolley to be used to assist when transporting heavy items to and from premises and vehicle. Tools should be correct for the application and of a good ergonomic design. Appropriate care should be taken to avoid repetitive movements and work should stop if discomfort is experienced.	Low Low	A T
Connecting microscope to mains electricity	Electrical – risk of electrocution	Engineer	Engineer to perform a thorough visual inspection of the electrical components before plugging the microscope in to the mains electricity supply. If a fault is identified upon visual inspection or there are any signs of defect after connecting e.g., sparks then the service will be terminated and the customer advised to take the defective equipment out of use immediately.	Low	A

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Risk Assessment					
Activity	**Hazard**	**Who might be harmed and how**	**Existing measures to control risk**	**Risk rating**	**Result**
Application of cleaning solutions to microscope components	Chemical – risk to eyes and skin	Engineer	Gloves to be worn to avoid risk of contact dermatitis associated with cleaning solutions. Cleaning solutions used are household grade only and comprise of foam cleaner and glass cleaner. Adequate eye protection to be worn if chemicals are to be sprayed.	Low	T
Application of lubrication compounds to microscope components	Chemical	Engineer	Gloves to be worn to avoid risk of contact dermatitis associated with lubricants. Lubricants used are standard mechanical greases and comprise of 3-in-1 oil, multi-purpose grease, silicone grease, graphite grease and WD40. Adequate eye protection to be worn if chemicals are to be sprayed.	Low	T
Application of solvents to microscope components	Chemical Flammables - solvents	Engineer, others in the vicinity	Gloves to be worn when handling solvents and work must be completed in a well-ventilated room. Due to the very small quantities involved it is not necessary to work within a fume hood. Solvents used: ethanol, acetone, IMS. Solvents are flammable – do not use near open flame or in close proximity to other potential sources of ignition. Small volumes significantly reduce this risk.	Low	A

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COSHH								
Chemical	**Hazard Symbol(s)**	**Signal Word**	**Quantity**	**Hazard Details**	**PPE & Other Safety Precautions**	**First Aid Measures**	**Risk Rating**	**Result**
Ethanol, 96% laboratory grade		Danger	100ml	• Highly flammable liquid & vapour • Causes severe eye irritations	• Lab coat, gloves and eye protection must be worn • Work within a well-ventilated area • No open ignition sources	Skin contact: • Wash contaminated skin promptly with soap or mild detergent and water • Remove clothing promptly, if soaked through, and wash as above Eye contact: • Wash eyes promptly with plenty of water, while lifting the eye lids • Continue to rinse for at least 15 minutes, and get medical attention Ingestion: • Wash out mouth thoroughly, and give plenty of water to drink • Seek medical attention Inhalation: • Very small volumes in use • Remove to fresh air	Low	A

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COSHH								
Chemical	**Hazard Symbol(s)**	**Signal Word**	**Quantity**	**Hazard Details**	**PPE & Other Safety Precautions**	**First Aid Measures**	**Risk Rating**	**Result**
IMS, Industrial Methylated Spirit		Danger	100ml	• Highly flammable liquid & vapour • Causes severe eye irritations • Harmful if swallowed • May cause damage to organs	• Lab coat, gloves and eye protection must be worn • Work within a well-ventilated area • No open ignition sources	Skin contact: • Wash contaminated skin promptly with soap or mild detergent and water • Remove clothing promptly, if soaked through, and wash as above Eye contact: • Wash eyes promptly with plenty of water, while lifting the eye lids • Continue to rinse for at least 15 minutes, and get medical attention Ingestion: • Wash out mouth thoroughly, and give plenty of water to drink • Seek medical attention Inhalation: • Very small volumes in use • Remove to fresh air	Low	A

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COSHH								
Chemical	**Hazard Symbol(s)**	**Signal Word**	**Quantity**	**Hazard Details**	**PPE & Other Safety Precautions**	**First Aid Measures**	**Risk Rating**	**Result**
Acetone, analysis grade		Danger	100ml	• Highly flammable liquid & vapour • Causes severe eye irritations • May cause drowsiness or dizziness • Repeated exposure may cause skin dryness or cracking	• Lab coat, gloves and eye protection must be worn • Work within a well-ventilated area • No open ignition sources	Skin contact: • Wash contaminated skin promptly with soap or mild detergent and water • Remove clothing promptly, if soaked through, and wash as above Eye contact: • Wash eyes promptly with plenty of water, while lifting the eye lids • Continue to rinse for at least 15 minutes, and get medical attention Ingestion: • Wash out mouth thoroughly, and give plenty of water to drink • Seek medical attention Inhalation: • Very small volumes in use • Remove to fresh air	Low	A

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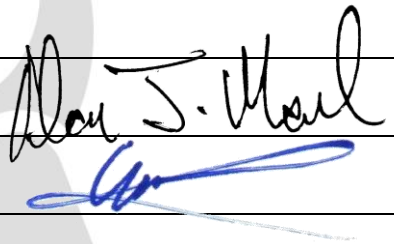
Action plan				
Ref No	**Further action required**	**Action by whom**	**Action by when**	**Done**
1				
2				
3				
4				
5				

Declaration by User

I confirm that I have read this Risk Assessment & COSHH and understand the hazards and risks involved. I confirm that I will follow all of the safety procedures as stated.

Name (printed): Alan J Monk	**Signature:** 	**Date: 06/01/2025**
Name (printed): Christine Monk	**Signature:**	**Date: 06/01/2025**

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Risk Ratings:

LOW	unlikely that harm would arise under the controlled conditions listed, and even if exposure occurred, the injury would be relatively slight.
MEDIUM	more likely that harm might actually occur, and the outcome could be more serious e.g., some time off work, or a minor physical injury.
HIGH	an injury is likely to arise, and that injury might be serious (broken bones, trip to the hospital, loss of consciousness), or even a fatality.

Result:

T **Trivial risk. T**he activity has been correctly identified as a hazard, but the risk is insignificant.

A **Adequately controlled, no further action necessary.** Suitable control measures are in place and the risk is low.

For T and A results, the assessment is complete.

N **Not adequately controlled, further action required.** The risk is medium or high, but it is reasonably practicable to reduce the risks further e.g., by purchasing mechanical aids for lifting. An action plan is required to state what needs to be carried out, by whom and within a suitable timeframe. Once complete, each line of the action plan must be signed off.