Standard COSHH Assessment

Use this form for all processes involving the use of hazardous materials/substances not already covered by a Substance Information Note (SIN). Where the process involves scale-up or it is a complex chemical reaction involving high hazard materials, the 'Advanced' form must be completed. Always consult the safety data sheet (SDS) and consider fire, explosion and other non-toxic hazards. Always consider a less hazardous alternative material. Tick to confirm this has been done and provide the detail in the section 1. ☒

Department	Physics	**Location**	P1.25, P1.26, P1.27, P1.30, Physics Building
Process/Task *Ensure you cover the whole task and not just a list of individual chemicals*	Cleaning and/or degreasing tools or component parts of experimental apparatus. Cleaning and polishing scientific samples.		
Persons covered by this assessment *– inc. others who could be affected by the activity*	Users of chemical substance and others in the vicinity.		
Frequency of Activity	Daily		

1 Justification *provide details of alternative techniques considered and why they are not deemed to be suitable.*

Any samples cleaned are moisture sensitive so water based cleaning agents cannot be used. Moisture must be removed from components or surfaces of apparatus so water based cleaning/degreasing agents cannot be used.

2 Describe each substances used in the process

Substance / Material	**Quantity used**	**Hazards & health effects** See SDS / packaging / EH40	**Likely Exposure route** (see SDS/EH40, could health surveillance be required?))
Acetone	350ml	H225 – Highly flammable liquid and vapour H319 – Causes serious eye irritation H336 May cause drowsiness EUH – Repeated exposure may cause skin dryness or cracking	Absorption through skin contact. Ingestion and inhalation.
Propan-2-ol	350ml	H225 – Highly flammable liquid and vapour. H319 – Causes serious eye irritation. H336 – May cause drowsiness or dizziness.	Absorption through skin contact. Ingestion and inhalation.
Ethanol	350ml	H225 – Highly flammable liquid and vapour H319 – Causes serious eye irritation	Absorption through skin contact. Ingestion and inhalation.

3 Method of Use / Application

Chemicals are all used in liquid form. They are applied directly onto the components/materials from a storage bottle or applied using paper tissues or cleaning cloths. Some vapour may be emitted during this step.

4 Controls / Precautions required: *Ensure the controls identified relate to exposure route identified in section 2 (eg fume cupboard/LEV, no dust methods etc.) Do the controls reduce the exposure to an acceptable level ☒ If not, an Advanced COSHH assessment will need to be completed*

Only small quantities of ethanol, acetone and propan-2-ol are used on workbenches and are stored in wash bottles containing no more than 350ml (as per the Universities storage guidance). Larger quantities (2500 ml) of ethanol, acetone and Propan-2-ol are stored in P1.28 in a metal cabinet designed to BS EN 14470-1:2004 for storage of flammable liquids, offering minimum 30 minutes fire resistance. The laboratory spaces either have openable windows (P1.26, P1.30) or are well-ventilated mechanically (P1.25 and P1.27) which increases the air exchange within the space. All laboratory users are to complete a local laboratory induction and the chemical awareness and laboratory safety Moodle course before they are approved access to work in the laboratory spaces. There is to be no eating or drinking in the laboratory space, and laboratory users should wash their hands after working with chemicals. Correct PPE as listed in section 5 are to be always used by the chemical user. Due to the infrequent and small quantities (500ml or less) of ethanol, acetone or propan-2-ol use RPE is not practicable, however if larger quantities (500ml or above) are being used then a fume cupboard (LEV) in P128 must be used as an engineering control measure to avoid the generation or vapours/aerosols.

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5	**PPE required** - *in addition to the controls identified above* ***Link to guidance***								
	Gloves (type & standard)	Nitrile rubber (480 min break through time)	Eye protection (type)	Safety glasses (EN 166)	Face Shield (type)		Respirator (type, inc. filters)		Body protection (type)	Cotton laboratory coat
	Other		Specify							

6	**Storage requirements** – *ensure storage is appropriate for hazards and compatibility with other materials. Further guidance on H&S website*
	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flames. Acetone, ethanol and propan-2-ol are flammable liquids and therefore are incompatible and not to be stored with ammonium nitrate, chromic acid, hydrogen peroxide, nitric acid, sodium peroxide, or halogens. Do not let significant quantities (> 50 ml) of acetone, ethanol or propan-2-ol enter drains as there is the risk of explosion.

7	**Waste Management** *(ensure waste is appropriately segregated, e.g. compatibility).* Local waste management rules suitable ☒ If not, provide detail of waste disposal requirements and limitations (e.g. Do Not Autoclave)
	Local waste management is suitable for acetone, ethanol and propan-2-ol. Hazardous waste management stream is available through the Physics Department. Uncleaned containers are to be disposed of as hazardous waste. Acetone, ethanol and propan-2-ol are not to be mixed with other chemicals for disposal.
8	**Emergency / Spillage control Procedures** *(ensure the spill kit is appropriate and readily available)* Standard first aid and spills management suitable for the substances being used ☐ . If not provide details below
	Propon-2-ol and ethanol: Cover any drains and take up with liquid absorbent material and dispose of through the hazardous waste management stream.

9	**Communication**
	Is there anything particularly hazardous about the activity that's others need to be aware of? ☐
	Will the activity require the laboratory noticeboard to be updated? ☐ Guidance for hazard assessment and laboratory noticeboards

Assessment completed by	Martin Lees	Date	01 June 2023
Reviewed by	**Stephanie Brown**	Date	

This assessment must be reviewed if any circumstances change (e.g. quantities used, updated SDS, changes in the WEL's as published in EH40, environmental conditions etc.).
Ensure the resulting controls identified for safe working are communicated to all who could be affected by this activity.
Where this activity becomes 'regular' this form can be used to support the development of Substance and Technical Information Notes.

Document History

Version	Date	Reviewer	Changes made
Version 1.0	01 June 2023	Martin Lees	