



harwellxps

www.harwellxps.uk

Internal Use only: Assigned to: _____

System: Supra/Ultra K-Alpha+/Nexsa Theta Probe NAP

Date Rec: _____ Date Analysed: _____

Data Emailed: _____ Return Requested? Yes No

Section A: Project Title

Project Title	RCUK Grant Reference (if applicable)

Section B: Proposal Details

1. Name and email address of the Principal Investigator (PI) for this proposal

Title	Name	Email Address

2. Contact details of PI

Postal Address	Contact Telephone Number
	Postcode

By ticking this box, I give HarwellXPS consent to store the above details to enable tracking and discussion of our project data. I understand that my details will not be used for communication other than those explicitly stated at <http://www.harwellxps.uk/mailling-list2/>

3. Co-investigators

Please list the primary investigator (PI) and up to two Co-I's. All visitors to HarwellXPS should be either PI or Co-I. These researchers (including students) are authorised by the PI to liaise with HarwellXPS.

Role (PI or CoI)	Primary Co-I Name	Email Address	Telephone N ^o
Role	Additional Co-I Name	Email Address	Telephone N ^o

PDR – Postdoctoral Researcher **PGR** – Postgraduate Researcher **ACD** – Permanent Academic **NUK** – Non-UK based Researcher

By ticking this box, I/we give HarwellXPS consent to store the above details to enable tracking and discussion of our project data. I understand that my details will not be used for communication other than those explicitly stated at <http://www.harwellxps.uk/mailling-list2/>

4. Has your research group previously made use of the HarwellXPS facilities? Yes No

5. **Please briefly detail any publications that resulted from previous analyses performed at the HarwellXPS facility, this may include publications submitted or are in press.**
 By submitting this form you consent to having these publications listed on the HarwellXPS website as promotion for the facility.

Corresponding Author (Typically project PI)	Journal	Volume	Pages	Year

6. **Will one or more investigators attend the analysis in Harwell or send samples via post?**
 Attend (recommended) Send samples via post (not available for block allocation)

Proposal

- i. **Is this proposal a:**
- Rapid response proposal** (Requiring 4-24 hours system use, in multiples of 4 hours)
 - Standard proposal** (Requiring 1-5 days system use)
 - Block allocation** (These should form part of expressed calls and PI's should use the box below to detail the number of visits and expected length of each visit)

- ii. **Abstract.** Please provide a short description of your proposal, you should include background to the proposal, the research question to be addressed and the methodology, including data acquisition and data analysis methods.

- iii. Please indicate the facilities that you require (these must be justified in sections (i) and/or (iv)):

Photon sources

- Monochromatic Al K α (1486.6 eV) Monochromatic Ag L α (2984.3 eV)
 UPS (He I and II) Cr K α (5417 eV)* Mg K α (1253 eV)*

Ion Beam

- Mono Ar ion source Cluster Ar ion source Ion Scattering Spectroscopy

Sample environment

- Near-Ambient Pressure* Catalysis cell / Gas Treatment* Inert atmosphere transfer*
 In-situ cooling In-situ heating

Other

- XPS imaging* Angle resolved analysis* *not available in rapid response applications

- iv. Do you have a preference for the spectrometer(s) assigned to this experiment? Note that choices made in (iii) can override any specific instrumentation selected here.

- Thermo K-Alpha⁺ / NEXSA Kratos Supra/Axis Ultra Thermo Theta Probe
 SPECS NAP No preference

- v. Please tick the general themed area of your research:

- Catalysis Energy Storage / Battery Semiconductor
 Medical / Biological Novel Materials & Biomaterials Electronics
 Thin Film & Polymer Geology Fibres / Nanomaterials
 Other (please specify) _____

Section C: Sample details

Please describe your samples to us in the simplest terms. In the space provided, please detail any extra information that might be useful not covered in your proposal. For example, what is the material of interest, what is the substrate (if any), how will you be preparing your samples for analysis?

Note: Typical sample sizes range from a few millimetres to a few centimetres. An ideal size is 10 mm x 10 mm. The longest dimension should be less than 60mm and ideally with a maximum thickness of 20 mm. If you are likely to exceed these dimensions, please speak to HarwellXPS staff prior to completing this section

Nature of Sample	<input type="checkbox"/> Solid (includes cats particles on Si Wafer)		<input type="checkbox"/> Ionic Liquid	
	<input type="checkbox"/> Particulate (i.e. nanoparticles/loose powders/flakes)		<input type="checkbox"/> Other (please specify below)	
Total Number of Samples			Please contact HarwellXPS Staff if the number of samples is greater than 15	
Typical Sample Size	X (mm):	Y (mm):	Z (thickness) (mm):	
Sample Composition (please provide brief details in the right hand panel)	<input type="checkbox"/> Inorganic			
	<input type="checkbox"/> Organic/Polymer			
Please provide any further details you may feel are useful with respect to the analysis of your samples below (e.g. use of conductive clips, cluster etch)				
Are your samples magnetic / likely to respond to a magnetic field?			<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are your samples likely to contain volatile hydrocarbons (e.g. solvents)?			<input type="checkbox"/> Yes <input type="checkbox"/> No	
Do your samples contain gallium (Ga)?			<input type="checkbox"/> Yes <input type="checkbox"/> No	
Do your sample contains radioactive species? (detail in space above)			<input type="checkbox"/> Yes <input type="checkbox"/> No	

Elemental Analysis Required (Please detail the high resolution spectra you require recorded & pass energies, Survey scans are always recorded)

Control of Substances Hazardous to Health (COSHH)

We have developed the following COSHH assessment form to be associated with your project. As a facility receiving and working with many samples every month, from a diverse range of research fields, we must ensure that we know about the hazards and risks involved with the analysis.

At HarwellXPS, we appreciate that some samples are in fact considered non-hazardous, and in these cases we are happy for you to state this on the COSHH assessment, provided that documentation to support this, such as a Material Safety Data Sheets (MSDS), are included. Ultimately, the COSHH assessment is being performed and approved by HarwellXPS staff, therefore we request that some of the Hazards, Risks and controls are identified by the researcher sending samples to us, as it is you who is most familiar with the material.

Do **NOT** send samples until you have explicit acceptance from us. If in doubt, please contact us and do not send samples.

Please note that radioactive samples exhibiting low level activity can be analysed at one of our hubs, however sputtering of the samples will not be permitted











COSHH Assessment

Sections highlighted in blue are to be completed by the researcher sending the samples to us.

1. Project Details

Project Title	
Date of Assessment	
Responsible Person:	Staff of HarwellXPS Facility, c/o Prof. Philip Davies (HarwellXPS Director)
Location of Work:	Room G.63, Research Complex at Harwell (RCaH), Harwell Oxford, Didcot, Oxon, OX11 0FA

2. Hazards. Please describe all Hazards associated with your samples

Hazard Type		Describe Hazardous Substance, include any Workplaces Exposure Limits (WEL) as indicated by the appropriate Materials Safety Data Sheet (MSDS)
 Nanoparticles	<input type="checkbox"/> Yes	
 Flammable	<input type="checkbox"/> Yes	
 Corrosive	<input type="checkbox"/> Yes	
 Harmful/Irritant	<input type="checkbox"/> Yes	
 Oxidising	<input type="checkbox"/> Yes	
 Explosive	<input type="checkbox"/> Yes	
 Toxic	<input type="checkbox"/> Yes	
 Carcinogen/Mutagen	<input type="checkbox"/> Yes	
 Radioactive	<input type="checkbox"/> Yes	
 Other Hazards	<input type="checkbox"/> Yes	

3. Risks: Please describe all Risks associated with these Hazardous Substances.

Human diseases, illnesses or conditions associated with Hazardous Substances
Potential routes of exposure
<input type="checkbox"/> Inhalation <input type="checkbox"/> Ingestion <input type="checkbox"/> Injection <input type="checkbox"/> Absorption <input type="checkbox"/> Other (select all that apply and detail below)
Maximum amount or concentration used
<input type="checkbox"/> Negligible <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High (detail below)
Potential for exposure to hazardous substances
<input type="checkbox"/> Negligible <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High (detail below)
Use of hazardous substances
<input checked="" type="checkbox"/> Small scale <input type="checkbox"/> Medium scale <input type="checkbox"/> Large scale <input type="checkbox"/> Other (detail below)
Analysis of hazardous substances is limited to small quantities in the lab environment.
Frequency of use

<input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input checked="" type="checkbox"/> Other (detail below)
One-off analysis of a set of samples, typically limited to a small number of days.
Who might be at risk
<input checked="" type="checkbox"/> Staff <input type="checkbox"/> Students <input checked="" type="checkbox"/> Visitors <input type="checkbox"/> Public <input type="checkbox"/> New/expectant mothers <input type="checkbox"/> Other (detail below)
Only HarwellXPS staff and visitors to the HarwellXPS laboratory will have any opportunity to come in to contact with any potentially hazardous substance

Assessment of risk to human health (prior to use of controls)
<input type="checkbox"/> Effectively zero <input type="checkbox"/> Low <input type="checkbox"/> Medium/Low <input type="checkbox"/> Medium <input type="checkbox"/> High (select one)
Assessment of risk to environment (prior to use of controls)
<input type="checkbox"/> Effectively zero <input type="checkbox"/> Low <input type="checkbox"/> Medium/Low <input type="checkbox"/> Medium <input type="checkbox"/> High (select one)

4. Controls to reduce Risk.

Please describe all Controls recommended to reduce the Risk associated with these Hazardous Substances.

Transport of Hazardous Substances to the facility (describe your packaging and delivery method)
Recommended Personal Protective Equipment (PPE)
<input type="checkbox"/> Safety glasses <input type="checkbox"/> Gloves <input type="checkbox"/> Lab coat <input type="checkbox"/> Respirator (see RPE section below) <input type="checkbox"/> Other (please detail)
Respiratory Protective Equipment (RPE) (if applicable)
<input type="checkbox"/> Disposable mask <input type="checkbox"/> Respirator (please detail) <input type="checkbox"/> Other (please detail)

Containment
<input checked="" type="checkbox"/> Laboratory <input checked="" type="checkbox"/> Controlled area <input type="checkbox"/> Glove box <input type="checkbox"/> Fume hood <input type="checkbox"/> Other (detail below)
Analysis is performed in the HarwellXPS laboratories and its hubs, which are all access-controlled areas suitable for handling of hazardous substances. Where required, glove box and fume hoods are available in the laboratories.
Storage of Hazardous Substances
Samples are stored in segregated, cool, dark, dry storage units securely stored within the laboratory environment. Samples are only stored for the duration of the project.
Waste management and disposal
Samples may be returned to the user if requested. For non-returns disposal is made in line with RCaH (or partner university) waste disposal protocols as defined in the respective document.

Instruction, training and supervision	
Special instructions are required to safely carry out the work	No
Special training is required to safely carry out the work	Yes
HarwellXPS staff are all trained in the correct and safe usage of all XPS instrumentation and associated facilities	
Work may not be carried out without direct personal supervision	No
Work may not be started without the advice and approval of a supervisor	No
Work can be carried out without direct supervision	Yes

5. Emergency Procedures

Emergency procedures		
Refer to Material Safety Data Sheet (MSDS) for material under analysis.		
Minor spillage or release		
Specify procedure	Isolate and clean up area with reference to MSDS	
Other actions	Evacuate and secure laboratory / area	No
	Inform competent person (e.g. Director, safety officer, PI)	Yes
Major spillage or release		
Specify procedure	Isolate and clean up area in accordance with MSDS. Note that due to small sample sizes, minor/major are treated equally	
Other actions	Evacuate building by fire alarm	No
	Call security and fire brigade	No
	Inform competent person (e.g. Director, safety officer, PI)	Yes
Fire Precautions		First aid
Due to small quantities, specific fire precautions are not needed.		Refer to MSDS
Emergency contacts		
Name	Position	Telephone
Prof. Philip Davies	Facility Director	029 20 874072
Dr. Robert Palgrave	Facility Co-Director	020 7679 5085
Dr. David Morgan	Technical Manager	029 20 870766
RCaH Security / Safety	Security / Safety	Ext 2222

6. Assessed Risk Estimation Matrix

Severity of Harm	Likelihood of Harm			
	High	Medium	Low	Negligible
Severe	High	High	Medium	Effectively Zero
Moderate	High	Medium	Low / Medium	Effectively Zero
Minor	Low / Medium	Low	Low	Effectively Zero
Negligible	Effectively Zero	Effectively Zero	Effectively Zero	Effectively Zero

7. Approval

Assessor (PI / Assigned User)		
Name	Signature	Date
Assessor (Harwell XPS Staff Member)		
Name	Signature	Date