

## **Sample Preparation Requirements/Restrictions for Kratos AXIS Supra**

*XPS is a surface sensitive analysis technique and therefore unwanted contamination on the surface can overwhelm the signal of interest on the sample. Therefore, using proper handling techniques for samples is vital for obtaining clean, reliable data.*

### **Good Sample Handling Practices:**

- Use powder free gloves when handling samples at all times
- Clean all glass wear/tweezers/scissors with isopropyl alcohol (IPA)
- Use clean polystyrene containers or clean glass vials for sample storage and transport (avoid plastic bags if possible), clean aluminum foil is also acceptable

### **Requirements:**

- All samples should be dry (they must go under UHV) – thus if you have a liquid that you spin coated/drop cast, ensure the surface is completely dry before submitting the sample (dry and desiccated before submitting for analysis)
- Maximum sample dimensions (<50mm length, <10mm width, <7 mm height), smaller sample dimensions are preferred (especially if you have several samples to submit) \*\*\*if you have samples higher than 7mm – talk with research officer for possible accommodations
- Sticky polymer films must be spin coated and dried before analysis can occur
- If your sample is Magnetic you MUST tell the Research Officer as magnetic samples can do severe damage to the system if not run correctly (in general we will de-magnetize the samples using a degausser)
- Flatter surfaces are best (especially if imaging is desired)
- Biological samples must be cleared (BSL documentation as well as ethics clearance) as required

### **Restrictions:**

- No radioactive, toxic or explosive materials can be analyzed
- No oils of any sort (thick or thin films) can be analyzed
- Thin films of molecules with low melting points cannot be analyzed
- No sputtering should be done on powdered samples