



**Standard Operating Procedure**

Title: **Mounting Samples for Micro Powder Diffraction**

SOP: SOPPOWCAP

Last date revised: 1/1/2009

Date approved: 1/1/2009

## **Mounting Samples for Micro- Powder Diffraction**

### **PURPOSE:**

This Standard Operating Procedure (SOP) states the responsibilities and describes the methods, procedures, and documentation used to mount powder samples in capillaries that are examined in the X-ray Diffraction Laboratory.

### **POLICY:**

All samples must be processed in such a manner to ensure the safe handling and storage of potentially hazardous chemicals. All samples must be properly labeled and the proper chain of custody must be maintained. All samples must be accompanied by proper documentation and when necessary the MSDS of each sample must be supplied.


### **RESPONSIBILITY:**

The X-ray Laboratory users and personell will be responsible for safety and storage issues. The sample custodian is responsible for tracking, storage, return and disposal of all samples delivered to the laboratory for analysis.

### **MATERIALS:**

- Glass capillary
- PET capillary
- Kapton capillary

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 <b>X-ray Diffraction Laboratory: Department of Chemistry Texas A &amp; M University</b>	Doc. No:	SOPPOWCAP
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## PROCEDURE:

1. Samples are delivered to the laboratory in person or by post and are accepted by the sample custodian and are tracked and stored as described by SOPTRAC.
2. The sample to be examined has been processed to ensure adequate particle size.
3. For a glass capillary a small quantity of sample is placed in the funnel of the capillary.
4. The capillary (sealed end toward the base of the funnel) is transferred to a standing long stem funnel (funnel perpendicular to the table top, wide funnel end top, small end resting on the table surface).
5. The capillary is dropped the length of the funnel.
6. Step 3-5 is repeated until the powder is packed tightly into the capillary.
7. The capillary is then sealed.
8. PET and KAPTON capillaries can be filled by introducing the powder into one end of the capillary and gently taping the other end on the table surface.
9. The capillary is sealed at both ends

## Documentation

- Records that are readily regenerated from mounting the samples may be placed in labeled folders and stored in a locked file cabinet.
- Records are maintained on a secure password protected database.

## Document control

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**X-ray Diffraction Laboratory: Department of Chemistry  
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- The goal of the laboratory document control program is to assure that all documents for a specified project will be accounted for when the project is completed.
- Accountable documents used shall include, but not be limited to, logbooks, chain-of-custody records, sample work sheets, bench sheets, and other documents relating to the sample or sample analyses.

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