

## Magnetic Properties Measurement System Facility

542 GSRC, Department of Chemistry

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**Rates:** Measurement costs are calculated in 12 hour increments. Multiple samples can be run in a single 12 hour increment but a sample change out fee is incurred for every sample after the first.

U. of South Carolina - \$150/12h. plus \$50 per sample change out

South Carolina - \$200/12h. plus \$75 per sample change out

Outside of S.C. - \$250/12h. plus \$75 per sample change out

### Standard Runs:

Run 1: zfc, H = 1000 Oe, T = 2-300 K (4 hours)

Run 2: zfc, H = 1000 Oe, T = 2-300 K (6 hours)  
fcw, H = 1000 Oe, T = 2-300 K

Run 3: zfc, H = 1000 Oe, T = 2-300 K  
fcw, H = 1000 Oe, T = 2-300 K (12 hours)  
zfc, H = 2 T, T = 2-300 K  
MvH (two quadrant), H<sub>max</sub> = 5 T, T = 2 K

Run 4: zfc, H = 1000 Oe, T = 2-300 K  
fcw, H = 1000 Oe, T = 2-300 K (12 hours)  
MvH (five quadrant), H<sub>max</sub> = 5 T, T = 2 K

### Standard Data Increments:

Temperature: 2-30 K: 0.2 K

30-150 K: 1 K

150-300 K: 2 K

Field: 0-0.1 T: 100 Oe

0.1-1 T: 500 Oe

1-5 T: 1000 Oe

**Sample Mass:** Typically, we recommend having sufficient sample to fill a 2-3 mm H x 2.6 mm D cylinder (typically 15-30 mg).

**Sample Mail-In:** For samples from outside USC, a mail in system will be used. Upon submission of this form, we will mail you the appropriate number of VSM powder sample holders. You are responsible for weighing your samples (we recommend weighing to 0.01 mg precision), loading them into sample holders, and mailing them back to us. Loading instructions and a return label will be included in the mailed package.

**Air-Sensitive Samples:** For air sensitive samples we recommend loading the VSM powder sample holders in a glovebox, placing them in a 1 dram screw top vial and sealing it with paratone film. VSM powder holders are reasonably air tight and can be removed from a vial and loaded into the MPMS in under 1 minute. Note that upon loading, the sample chamber is purged 3 times with helium and then kept under vacuum (~7 torr).

## Magnetic Properties Measurement System Facility

Name: \_\_\_\_\_ Date: \_\_\_\_\_

E-mail: \_\_\_\_\_ Phone #: \_\_\_\_\_

Research Group: \_\_\_\_\_ Department: \_\_\_\_\_

Address: \_\_\_\_\_

Affiliation:     USC                       In South Carolina                       Out-of-S.C.

Sample # 1 ID: \_\_\_\_\_

Sample #1 Composition: \_\_\_\_\_

Standards Runs:

- Run 1 (4 hours)
- Run 2 (6 hours)
- Run 3 (12 hours)
- Run 4 (12 hours)

Sample # 2 ID: \_\_\_\_\_

Sample # 2 Composition: \_\_\_\_\_

Standards Runs:

- Run 1 (4 hours)
- Run 2 (6 hours)
- Run 3 (12 hours)
- Run 4 (12 hours)

Sample # 3 ID: \_\_\_\_\_

Sample # 3 Composition: \_\_\_\_\_

Standards Runs:

- Run 1 (4 hours)
- Run 2 (6 hours)
- Run 3 (12 hours)
- Run 4 (12 hours)

**Magnetic Properties Measurement System Facility**

Payment Methods:

**Inside USC**

USC Fund Number (XXXXXX-XXXX): \_\_\_\_\_

**Outside USC**

Billing Address: \_\_\_\_\_

P.O. Number (if applicable): \_\_\_\_\_