Department of Energy & Environment (DEE)

National Institute of Technology, Tiruchirappalli – 620015

Sample Preparation Guidelines

1. <u>Bomb Calorimeter</u>

- a. Solid samples should be provided in the form of particles of size as small as possible.
- b. If sample is a mixture of different solid materials, it should be provided in Homogeneous with desired mixing ratio of materials.
- c. The minimum quantity of sample provided should be 2 gm.

2. Moisture Analyzer

- a. Solid samples should be provided in the form of particles of size as small as possible.
- b. The minimum quantity of sample provided should be 2 gm.

3. TOC Analyzer

- a. Solid samples should be provided in the form of particles of size as small as possible.
- b. If sample is a mixture of different solid materials, it should be provided in Homogeneous with desired mixing ratio of materials.
- c. The minimum quantity of solid sample provided should be 2 gm and for liquid sample is 30 ml.

4. CHNS/O Analyzer

- a. Solid samples should be homogeneous having all the particles in uniform size and preferably sample should be microns in size.
- b. The minimum quantity of the solid sample should be 0.5 grams.

5. FTIR

- a. Solid samples should be homogeneous having all the particles in uniform size and preferably sample should be microns in size.
- b. The minimum quantity of the solid sample should be 0.5 grams.
- c. Liquid samples should always be miscible with suitable organic solvents and it should never get dissolved with water.
- d. The minimum quantity of the liquid sample should be 2 ml.

6. <u>UV/Vis/NIR Spectrophotometer</u>

- a. Suspension in the liquid samples should not be viscous. (If viscous, provide plastic cuvette with 5 mm)
- b. The minimum quantity of the liquid sample should be 10 ml.

7. <u>TGA</u>

- a. Solid samples should be homogeneous having all the particles in uniform size and preferably sample should be microns in size.
- b. Please check the sample is not hazardous /sticky while heating. In case problem arises while testing applicant has to pay for the crucible (Rs. 200/-)
- c. The minimum quantity of the solid sample should be 1 gram.

8. <u>DSC</u>

- a. Solid samples should be homogeneous having all the particles in uniform size and preferably sample should be microns in size.
- b. The minimum quantity of the solid sample should be 1 gram.