

INDIAN INSTITUTE OF TECHNOLOGY KANPUR
DEPARTMENT OF CHEMICAL ENGINEERING
PG Research lab

STANDARD OPERATING PROCEDURE
DIFFERENTIAL SCANNING CALORIMETRY (DSC)

HEAT FLOW DATA

1. Open Nitrogen gas toggle valve.
2. Switch on power button below the table.
3. Switch on RCS (green button).
4. Switch on machine by black button at the back of machine.
5. Switch on PC → Open software TRIOS.
6. Window opens with instrument view → click on connect button → instrument software window open.
7. Click on ENABLE EVENT symbol. Check all options are green at the bottom bar.
8. In Experiment Panel (LEFT) → click on CREATE NEW RUN. Window appear for entering sample detail for sample run.
9. Enter sample name, sample weight (in mg) and give path to the file to be saved.
10. In last panel TEST- select CUSTOM and then enter program for the sample run as per requirement of user.

NOTE- Min Temp- -90°C

Max Temp- 400°C

Sample decomposition temp **MUST** be known.

SPECIFIC HEAT CAPACITY DATA

Start analysis in MODULATED CONVENTIONAL MODE.

1. Follow same steps till step-9.
2. In last panel TEST - Select MODULATED CONVENTIONAL.
3. Enter program as per requirement of user by using following steps in **TEMPLATE**

Modulated Temperature Amplitude - 1.00°C

Modulation Period - 60 s

Ramp Rate - (given by user) otherwise 3 or 5°C

Start Temperature - (-90°C)

Final Temperature - (given by user) max 400°C

SHUT DOWN PROCEDURE

1. Disable RCS from → GENERAL → click on DISABLE EVENT and wait until temperature becomes more than 10
2. Left upper side, click on INSTRUMENT → shut down.
3. Power off machine from back side.
4. Switch off RCS by green button.
5. Shut down PC.
6. Close nitrogen gas valve.