**Form No: MME TGA-DSC\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

***TGA-DSC USAGE REQUEST FORM***

***REQUISITIONER’S DETAILS***

|  |  |
| --- | --- |
| Name of the Requisitioner: | Date: |
| Designation: | Department: |
| Contact Number: | Email ID: |
| Name of the Supervisor / Faculty Advisor: |

(NB: Please read the guidelines given on the back side of the page and sign below)

***SAMPLE AND OPERATION DETAILS***

|  |  |
| --- | --- |
| Form of sample (please tick): Solid / Powder | Material type: |
| Sample dimensions/volume: | Total number of samples: |

***TESTING PARAMETERS***

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sl. No. | Sample ID | Composition | Temperature Range(Max 1400 oC) | Heating Rate(5-25 oC/min) | Cooling Rate(5-25 oC/min) | Total Time  | Total Charges |
| 1. |  |  |  |  |  |  |  |
| 2. |  |  |  |  |  |  |  |
| 3. |  |  |  |  |  |  |  |
| 4. |  |  |  |  |  |  |  |
| 5. |  |  |  |  |  |  |  |
| 6. |  |  |  |  |  |  |  |
| **#Preference of atmosphere for measurement: N2/Air/Argon** |  |

**#**For using any atmosphere other than N₂, Air, or Argon, prior permission must be obtained and charges confirmed either from PI, Dr. Anirban Chowdhury (anirc@iitp.ac.in), or from the Department HoD.

**#If the atmosphere is not mentioned, the sample will be processed in Nitrogen only.**

Whether the analyte itself toxic?: YES / NO (If YES, mention the precautions that have to be taken care during sample handling: …..…………………………………………………………

**Whether sample reacts with Alumina (Al2O3):** Yes/ No

***Estimation of charges (See page 2 for details) and Bank details***

|  |  |
| --- | --- |
| **Estimation of charges (₹)#** | **Bank details of R&D IIT Patna** |
| **TGA-DSC charges**  |  | **Bank Name** | SBI |
| **18% GST charges** |  | **Account No.** | 30957551934 |
| **Total charges** |  | **IFSC Code** | SBIN0017164 |
|  |  | **Branch** | IIT Bihta Campus |
| **Please attach the payment details along with this form** |

*(NB: slot time is based on the heating & cooling profile of the sample)
# refer to Page 3 for guidance on calculation regarding the payment for TG-DSC*

***FOR OFFICE USE ONLY***

|  |  |
| --- | --- |
| **Serial Number: IITP/MME/TGA-DSC/ROH/20\_\_/\_\_\_\_****(MME ref number)** | **Date:** |
| **Experiment operated by****(Name, Date & signature):**  |  |

***Charges\* for TGA-DSC usage:***

|  |  |  |  |
| --- | --- | --- | --- |
| **Category\*\*** | **Institution/ Industry** | **Operation time** | **Charges per hour (Excluding GST)** |
| (A) | MME Department, IIT Patna | Regular office hours | Rs. 250.00 |
| (B) | Any Department within IITP excluding MME | Regular office hours | Rs. 500.00 |
| (C) | Academic/ Educational Institution outside IITP, R&D and National Labs | Any time | Rs. 700.00 |
| (D) | Industry | Any time | Rs. 1250.00 |

* ***For all fresh heat treatment conditions, a calibration file would be generated, which will run based on the same experimental condition given by the user. This charge will also be added along with the experiment on an hourly basis.***
* ***All measurement will be done in Nitrogen (N2) with no extra charge. For the measurement to be done in Air and Argon, the user must pay an extra charge of Rs. 100 (for Air) and Rs. 150 (for Argon) on per hour basis. (Note: To avoid the extra charges of gas, user may opt for higher heating rates)***
* ***Please note the experiments needing a maximum temperature below 400 ⁰C will not be entertained in this machine.***
* ***In case, the sample remnants getting stuck to the TGDSC Crucible or damages the Crucible in any way that it cannot be reused for future, the price for the Crucible has to be compensated from the DDF fund of the respective department. Samples from that particular lab with that particular condition will not be encouraged in future.***

The above proposal may please be approved.

**(Signature of Requisitioner)**

**(Signature of Faculty/Supervisor)**

**(Signature of Head of Department of the Requisitioner)**

**Approved**

**(Faculty In charge of TGA-DSC) (Signature of MME HoD)**

**Example for TG-DSC calculation for total experimental running time:**

The total analysis time for a temperature ramp to 1000 ℃ at a heating rate of 10 ℃/min is calculated as:

Time for heating = $\frac{1000 ℃}{10 ℃/min}$ =100 minutes =1 hour 40 minutes (sample).

Thus, the total time required per analysis cycle is:

0:20 (handling) + 1:40 (correction file) + 1:40 (sample) = 3:40 (~ 4 hours) Total charges = 4$ ×$ charges per hour

**Guidelines for TGA-DSC lab:**

1. Regular officer hours 9:00AM to 5:30PM.
2. One student cannot book more than one slot in a week if there is a long queue.
3. Operator/ Lab in-charge has the right to stop the work as soon as it exceeds allocated time for a slot. If any user needs more time, he/she can book another slot in the subsequent week based on the availability.
4. Requisitioner should not force or manipulate the operator of getting earlier slots. In such a situation the Requisitioner will be debarred to use the machine in the future.
5. In any circumstances, Requisitioner should not misbehave with the operator. If such incidences are reported, he/she may not be allowed to use the machine in the future.
6. Sample should be cleaned properly before bringing it to the room. Dirty and/ or moist sample will not be used in the instrument. Operator has the right to discontinue or reject such samples.
7. Requisitioner should not touch the equipment or any other accessories lying around the equipment or in the room.
8. All the Requisitioner should remove their shoes outside the respective lab.
9. Unnecessary use/ misuse of the instrument may lead to discontinuation of the facilities of those Requisitioners.
10. Requisitioner should fill a form before booking a slot. The form should be forwarded by the concerned faculty and faculty in-charge of the Lab.
11. During institute holidays, normal operations may be hampered. Some adjustments may be done by the faculty in-charge based on demands.
12. Any Requisitioner can use the TGA-DSC beyond regular office hours upon request, i.e., if the operator is available during the time. The slot will be on chargeable basis per hours and concern faculty should pay the changes before booking any slots.
13. The regular operation may be disturbed due to maintenance issues, repairing of any components, unavailability of consumables, unforeseen circumstances (e.g. electrical issues, power shut down, nonfunctional ACs etc.).
14. Please bring Re-writable CD to collect your Data. Pen drives are strictly prohibited.
15. Sign the log book before collecting your Results.
16. Submit your samples with the form.
17. Maximum Four Samples will be allowed with a form at a time.

**(Signature of the Requisitioner)**

**Name of the Requisitioner:**

**Date:**