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|                                                           |  |  |
| <b>FAKULTI SAINS GUNAAN<br/>UNIVERSITI TEKNOLOGI MARA</b> |                                                                                   |  |

| <b>Rheometer Sample Form</b> |                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Instrument                   | : ANTON PAAR MCR302                                                                                                                                                                                                                                                                                                                                                                             |
| Note                         | : <ol style="list-style-type: none"> <li>1. Analysis using Rheometer is not meant for unknown sample. (<b>Only suitable for gels, pastes, soft solids, polymer melts</b>)</li> <li>2. Maximum <b>8 samples</b> only are allowed for each application</li> <li>3. Please use <b>CD or Wi-Fi only to copy your data</b> from the computer. Any USB drivers are not allowed to be used.</li> </ol> |

**(A) Particulars of Sample Owner**

|                              |  |                                    |  |
|------------------------------|--|------------------------------------|--|
| Name of applicant:           |  | Supervisor's name (if applicable): |  |
| Student ID:                  |  | Staff No:                          |  |
| Department and Organization: |  | Telephone No.:                     |  |
| Telephone No.:               |  | Email:                             |  |
| Email:                       |  | Supervisor's signature:            |  |
| Applicant's signature:       |  | Supervisor's rubber stamp:         |  |

**(B) Details of Samples** (Again rheometer is not meant for unknown sample)(Provide detailed information for **applicable** column)

Note: Information for onset of decomposition temperature ( $T_d$ ) must be provided. Please extract this information for your sample using Thermogravimetry Analyzer (TGA) prior to Rheometer analysis. Thickness of sample (gap between plate): 0.50 mm - 1.5 mm (Recommended thickness: 1 mm).

|   | Sample ID | Name of sample<br>[please specify the chemical component(s) of your sample] | Expected value(s)                                                            |            | State of sample<br>(e.g. gels, pastes, soft solids, polymer melts) | Others<br>(pls specify) |
|---|-----------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------|------------|--------------------------------------------------------------------|-------------------------|
|   |           |                                                                             | Onset $T_d$ (°C)<br>(TGA thermogram shall be submitted with the sample form) | $T_m$ (°C) |                                                                    |                         |
| 1 |           |                                                                             |                                                                              |            |                                                                    |                         |
| 2 |           |                                                                             |                                                                              |            |                                                                    |                         |
| 3 |           |                                                                             |                                                                              |            |                                                                    |                         |
| 4 |           |                                                                             |                                                                              |            |                                                                    |                         |
| 5 |           |                                                                             |                                                                              |            |                                                                    |                         |
| 6 |           |                                                                             |                                                                              |            |                                                                    |                         |
| 7 |           |                                                                             |                                                                              |            |                                                                    |                         |
| 8 |           |                                                                             |                                                                              |            |                                                                    |                         |

$T_d$  = decomposition temperature;  $T_m$  = melting temperature

**PLEASE ALWAYS CONSULT THE TECHNICIAN-IN-CHARGE BEFORE SAMPLE SUBMISSION**

*This Rheometer sample form consists of 2 printed pages*

|   | <b>Sample drying details</b><br>(ONLY vacuum dried sample shall be approved) |                                |                                                                                                    |
|---|------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------------------------------------------|
|   | <b>Vacuum drying temperature (°C)</b>                                        | <b>Duration (minimum 24 h)</b> | <b>Brand and location of the vacuum oven (full name) (note: vacuum oven is accessible in MBPT)</b> |
| 1 |                                                                              |                                |                                                                                                    |

**(C) Conditions of measurement (currently available);**

1. Starting temperature: 25 °C, End temperature: 300 °C
2. Starting frequency: 0.1 Hz, End frequency: 100 Hz
3. Parallel plate: 20 mm or 8 mm
4. Maximum temperature: approximately 50 °C below the  $T_d$  of the sample
5. Minimum temperature: approximately 25 °C
6. Rheological tests: Amplitude sweep, Frequency sweep, Time-dependent and Temperature-dependent behaviour

*If other conditions needed, please specify:*

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**(D) Rheological procedure for each sample or one rheological procedure for all samples [note: user SHALL present own thermal procedure(s)]**

e.g. Sample ID:[], Frequency sweep at 150 °C, from 10 Hz to 100 Hz at 0.1% strain with 10 points per decade, sample thickness: 1 mm

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**For office use:**

|   |                                                    |   |  |
|---|----------------------------------------------------|---|--|
| 1 | Name of technician / lecturer                      | : |  |
| 2 | Date of sample(s) received                         | : |  |
| 3 | Signature of coordinator<br>(Ms. Hairunnisa Ramli) | : |  |

Checked by coordinator: Ms. Hairunnisa Ramli, 013-4415077; hairunn2901@uitm.edu.my

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