



**FAKULTI SAINS GUNAAN
UNIVERSITI TEKNOLOGI MARA**

Differential Scanning Calorimeter (DSC) Sample Form

Instrument Model : TA Q2000 (Auto sampler)

Note :

1. This DSC operates with **auto sampler**.
2. Analysis using DSC is not meant for unknown sample.
3. Maximum **8 samples** only are allowed for each application.
4. Please use **CD or Wi-Fi only to copy your data** from the computer. Any USB drivers are not allowed to be used.

(A) Particulars of Sample Owner

Name of applicant: _____ Student ID: _____ Department and Organization: _____ Telephone No.: _____ Email: _____ Applicant's signature: _____	Supervisor's name (if applicable): _____ Staff No: _____ Telephone No.: _____ Email: _____ Supervisor's signature: _____ Supervisor's rubber stamp: _____
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(B) Details of Samples (Again DSC is not meant for unknown sample)

(Provide detailed information for applicable column)

Note: Information for onset of decomposition temperature (T_d) shall be provided. Please extract this information for your sample using Thermogravimetry Analyzer (TGA) prior to DSC analysis.

	Sample ID	Name of sample [please specify the chemical component(s) of your sample]	Expected value(s)				
			Onset T_d (°C) (TGA thermogram SHALL be submitted with the sample form)	T_c (°C)	T_m (°C)	T_{cure} (°C)	T_g (°C)
1							
2							
3							
4							
5							
6							
7							
8							

T_c = crystallization temperature; T_m = melting temperature; T_g = glass transition temperature

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

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

This DSC sample form consists of 2 printed pages

(C) Conditions of measurement

1. Starting temperature: 30 °C (**minimum temperature, -90 °C**)
2. End temperature: 30 °C (**maximum temperature, 150 °C**)
3. Heating / cooling rate: 10 °C/min (**maximum rate, 10 °C/min**)
4. Purge gas: N₂, 50 mL/min (**preset rate**)
5. Coolant: mechanical cooling device
6. Maximum temperature: approximately 50 °C below the **ONSET** T_d of the sample
7. Minimum temperature: suggest to set at 20 °C below the T_g of the sample, where the lowest temperature is approximately at -90 °C
8. Sample pan: standard aluminum pan for solid sample and hermetic pan for volatile sample

If other conditions needed, please specify:

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

e.g., Sample ID: heat sample from 30 °C to 150 °C.

(E) Extraction of data for each sample (please tick)

	Sample ID	Name of sample	Data needed				Others (please specify)
			T_c (°C)	T_m (°C)	T_{cure} (°C)	T_g (°C)	
1							
2							
3							
4							
5							
6							
7							
8							

T_c = crystallization temperature; T_m = melting temperature; T_g = glass transition temperature

For office use:

1	Name of technician / lecturer	:	
2	Date of sample(s) received	:	
3	Signature of coordinator (Chan C. H.)	:	

Checked by coordinator: Chan C. H., 016-3611760; cchan@uitm.edu.my

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