

# DSC Differential Scanning Calorimetry

## Principle

**Differential scanning calorimetry (DSC)** is a thermoanalytical technique in which the difference in the amount of heat required to increase/decrease the temperature of a sample and reference is measured as a function of temperature.

Samples can be either solids or liquids.

## Capabilities

- Melt Temperature
- Melt Enthalpy (latent heat of fusion)
- Crystallization Temperature
- Crystallization Enthalpy
- Glass Transition Temperature
- Specific Heat ( $C_p$ )

## Assets

|                                                                                     | Asset                          | Details                                                                                                  |
|-------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------------------------------------------------|
|    | <b>Perkin Elmer DSC 7</b>      | Thermal transitions in the range RT -> 600 °C                                                            |
|   | <b>Perkin Elmer Pyris DSC</b>  | Thermal transitions in the range -160 °C -> 200 °C                                                       |
|  | <b>TA Instruments DSC 25</b>   | Thermal transitions in the range -80 °C -> 430 °C, 54-positions autosampler                              |
|  | <b>TA Instruments DSC 2500</b> | Thermal transitions in the range -120 °C -> 400 °C, 54-positions autosampler, Direct $C_p$ determination |

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