CARPOR
Characterization of
Porous Materials

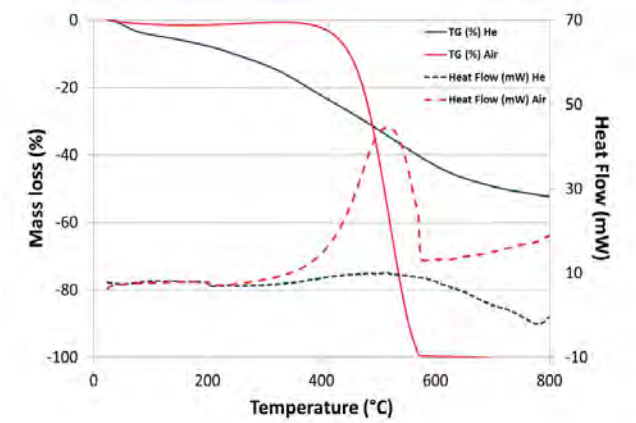
GENERAL DESCRIPTION

Thermogravimetry (TG) is a method of thermal analysis that continuously measures the mass of a sample over time as the temperature is changed. During heating, both the temperature at which the sample loses (or gains) weight as well as the exact mass loss (gain) can be determined accurately, thus providing information about thermal stability and phenomena such phase transitions, decomposition, oxidation, reduction,…

Differential scanning calorimetry (DSC) provides information about thermal transitions within a sample. By heating a sample together with a reference standard, the difference in heat fluxes necessary to maintain the same temperature allows to access to exo- or endothermic phenomena such as melting, crystallization, glass transition,…

The TG-DSC combines both these techniques within a single measurement, with an accurate control of temperature ramping and gas flows.

Thermogravimetry – Differential Scanning Calorimetry (TG-DSC)



Comparative TG-DSC measurements on a porous carbon under air (red curves) and under inert atmosphere (blue curves).

KEY-INFORMATION :

- Thermal stability
- Water / adsorbed phase contents
- Oxidative mass losses / combustion
- Glass transition
- Melting, Crystallization
- …

DOMAINS OF APPLICATION

- Polymers
- Composites
- Catalysts
- Fuels
- Pharmaceuticals / Drugs
- Liquid crystals
- Quality control
- Fuel cells
- Food and additives
- …

REPORTING

Data treatment is performed via the build-in software (Calisto from SETARAM). A standard report will provide the most pertinent data such as % mass change, Heat flow, Temperature and time. Optional calculations can be provided on demand.
The raw data will be supplied on demand as an Excel® file.

PRACTICAL INFORMATION

- The maximum volume for analysis should fit within a 100 µl crucible (diameter 0.4 cm, height 0.8 cm).
- Balance range: +/- 200 mg.
- Balance resolution: 0.02 µg – DSC resolution: 0.35 µW.
- Temperature range : 20-830°C.
- Temperature ramping: 0.5 – 20°C/min.
- Different possible atmospheres: Helium, Argon, Air, O2…
- Measurements are carried out on a on a SETARAM Sensys Evo TG-DSC.

PRICING

Contact us for a quotation adapted to your needs.

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