

Analysis of kaolinite

Experimental:

Instrument: Setsys TGA with DTA rod Pt-Rh 10% / Pt

Sample: kaolinite

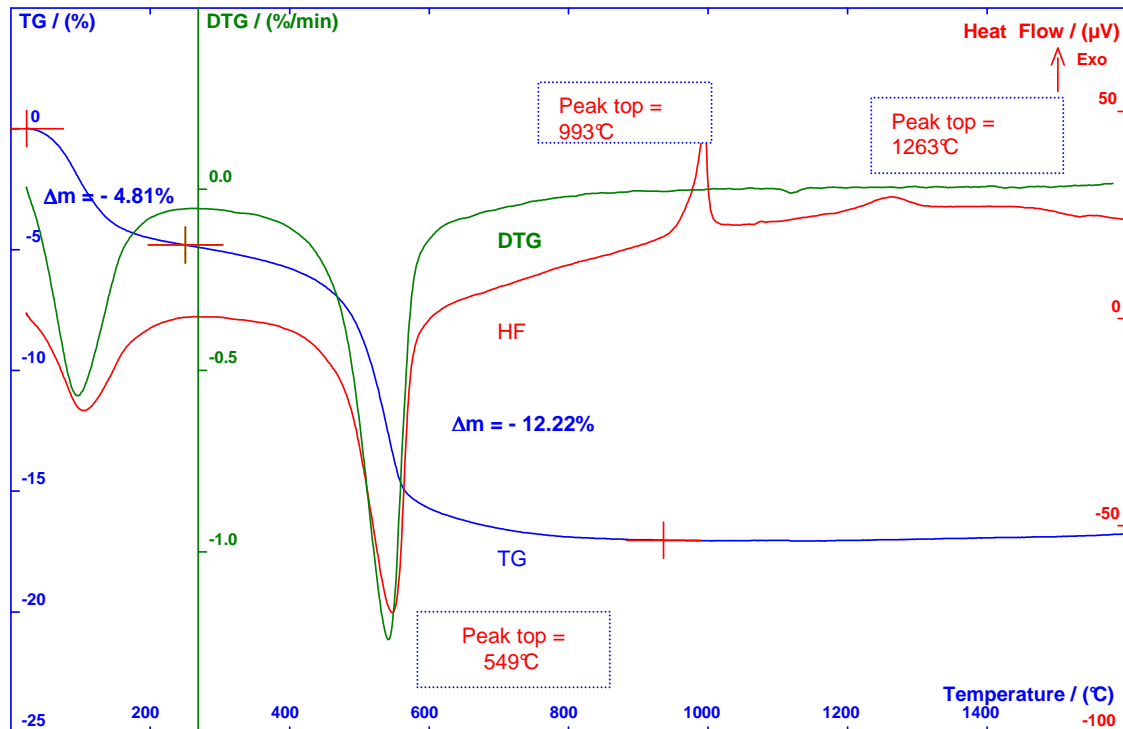
Sample mass: 78.87 mg

Crucible: platinum

Atmosphere: air

The temperature is programmed from 25°C up to 1600°C at 10 K.min⁻¹.

Notice: kaolinite is the raw material for the production of china (porcelain).



Conclusion:

The TG curve presents two mass losses:

- the first mass loss of 4.81% between the ambient and 250°C, simultaneous with an endotherm, is due to the evaporation of water.
- the second mass loss of 12.22% between 250°C and 940°C, simultaneous with an endotherm, is due to the dehydroxylation of kaolinite:

kaolinite → metakaolinite

The exotherm at 993°C is to the transformation:

metakaolinite → mullite

The exotherm at 1263°C is to the transformation:

mullite → secondary mullite and cristobalite

Instrument:

Setsys Evolution TGA-DTA

-150°C to 2400°C

