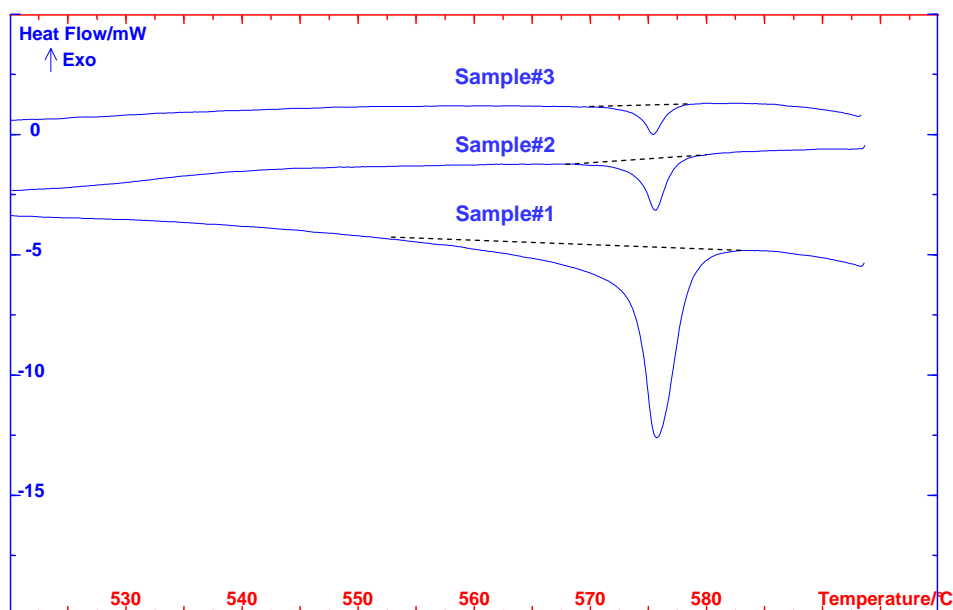


## Determination of quartz content in inorganic material

### Introduction:

In some industrial activities, the determination of quartz content may be of great importance. It is the case for talc or other inorganic material where the control of abrasive properties is essential.

For this application, DSC131 is a really appropriate tool as it can analyze materials having low density like talc.



### Experimental:

**Sample** : Silica containing quartz

**Mass** : ca 15 mg

**Vessel** : aluminium

Heating mode : 5 K/min

A sample containing 100% of quartz (#1), and different samples (#2 and 3) with unknown content of quartz are analyzed.

### Conclusion:

When heated, a transition at 573°C may be observed : it corresponds to the transition from the  $\alpha$  to  $\beta$  forms of  $\text{SiO}_2$ .

By integration of the corresponding peak, the heat of transition is measured : on using the sample#1 as a standard it is possible to determine the quartz contents of sample #2 (= 45%) and sample #3 (= 11%).

This method enables to determine the quartz content of a material down to a few percents.

### Instrument :

- DSC 131 evo
- -170 up to 700°C



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