



Thermogravimetry: The route to rapid problem-solving

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Thermogravimetric Analysis (TGA) can do more than just "weigh" things. It can also be used, for example, to determine the quantity of water, plasticizers, polymers, additives, flame-retardants, glass fibres, silicates, tale and carbon black in polymers such as rubber or polyolefins, chemical raw materials or Life Science products. Special TGA equipment, accurate to approximately 50 ng, can also be used to ascertain tiny differences in product composition, for example those caused by different manufacturing or storage processes.

The combination of TGA and mass spectrometry (MS) has proved highly effective for use in trouble-shooting. Linking up TGA and MS makes it possible to simultaneously identify the volatile products that occur as a result of TGA. DSM Research has over 10 years of experience in the field of TGA/MS analysis of polymers and chemical raw materials, experience that has resulted in the development of special TGA/MS databases.

In day-to-day analytical practice TGA has proved its worth as a kind of "initial screening" tool, producing important information for the planning of further analytical steps. Moreover, at DSM Research a series of TGA-systems have been modified in such a way that so-called runaway reactions, process simulations, troubleshooting and emissions processes, among other things, can be examined. Vacuum-TGA and simultaneous TG/MS video-imaging are also used for this.

If you have any questions about the above thermogravimetric processes or about any special applications, please contact us.



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