

**CONSIDERATIONS ON MICROWAVE-ASSISTED DIGESTION: TOWARDS A  
CONCEPTUAL MODEL**

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**Abstract**

A wide range of information is now available on the microwave digestion of different samples, from food products or human hair to rock or plant samples. The external environmental conditions and the sample characteristics determine the work conditions for chemical digestion. A preliminary conceptual model can be drawn, which relates the sample nature to the working conditions, in order to be applicable at a range of materials. The further research needs carrying out an extension of this method for high values of temperature or pressure.

Sample digestion plays an essential role in almost all analytical processes, but is not recognized as an important step in analytical chemistry. In the last period, it is recognize the importance of the sample digestion (wet/dry digestion or decomposition) for the obtaining of high-quality analytical and valid results. The operation is the source of any potential errors: contaminants from the vessels, impurities from the chemical reagents etc. The aim of this paper it is not to discuss or to avoid the systematic errors which appears during the sample digestion in the laboratory. The paper wish to be a pertinent review for a topic analytical technique, namely microwave digestion, like a rapid and productive wet-digestion analysis.

**Keywords:** wet digestion, sample preparation, microwave digestion, analytical technique

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