



PRESSURIZED WET DIGESTION IN OPEN VESSELS (T 11)**P. Kettisch, E. Maichin, M. Zischka and G. Knapp**** Anton Paar GmbH, Anton-Paar-Strasse 20, A-8054 Graz, Austria**** Institute for Analytical Chemistry, Micro- and Radiochemistry, Graz University of Technology, Techniker Strasse 4, A-8010 Graz, Austria*

Pressurized wet digestion in closed vessels, microwave assisted or with conventional conductive heating, is the most important sample preparation technique for digestion or leaching procedures in element analysis. In comparison to open vessel digestion closed vessel digestion methods have many advantages, but there is one disadvantage – complex and expensive vessel designs.

A new technique -- pressurized wet digestion in open vessels – combine the advantages of closed vessel sample digestion with the application of simple and cheap open vessels made of quartz or PFA. The vessels are placed in a High Pressure Asher HPA, which is adapted with a Teflon liner and filled partly with water. The analytical results with 30 mL quartz vessels, 22 mL PFA vessels and 1.5 mL PFA auto sampler cups will be shown. In principle every dimensions of vessels can be used. The vessels are loaded with sample material (max. 1.5 g with quartz vessels, max. 0.5 g with PFA vessels and 50 mg with auto sampler cups) and digestion reagent. Afterwards the vessels are simply covered with PTFE stoppers and not sealed. The vessels are transferred into a special adapted HPA and digested at temperatures up to 270°C. The digestion time is 90 min. and cooling down to room temperature 30 min.

The analytical results of CRM's are within the certified values and no cross contamination and losses of volatile elements could be observed.

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