



**CRITICAL EVALUATION OF PRESSURIZED MICROWAVE-
ASSISTED DIGESTION EFFICIENCY USING NITRIC ACID
OXIDIZING SYSTEMS (M 7)**

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The possibilities of enhancement of a medium-pressure microwave-assisted digestion system for sample preparation in trace element analysis of biological material was investigated. Based on optimal digestion conditions for oxidizing systems with nitric acid, different digestion procedures were examined to minimize residual carbon. The substitution of nitric acid and the addition of hydrogen peroxide and ozone to nitric acid was evaluated. The residual carbon content of the digestate was determined coulometrically. Addition of hydrogen peroxide during organic oxidation reactions does not lower the dissolved carbon in the solution. Ozone was tested as an additional, potentially non-contaminating, digestion/oxidation system to the nitric acid used in the sample preparation method.

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