November 4, 2021 (15:30–16:15, CET)

MILESTONE
HELPING CHEMISTS

VENDOR WEBINAR:

Microwave Assisted Solvent Extraction: A Powerful Tool to Tackle Sample Preparation Challenges

Tackling extraction bottlenecks with microwave sample preparation
Diego Carnaroglio, PhD, Milestone Srl

Microwave assisted extraction and saponification for food quality and safety
Prof. Giorgia Purcaro, Gembloux, Agro-Bio Tech, University of Liège, Belgium

Microwave extraction in action! Live demonstration of microwave-assisted total fat determination
Roberto Boschini, MSc, Milestone Srl

Sample preparation is a routine step in many analyses, but it's often underestimated. Choosing the right sample preparation step is important, as it can prevent contamination, improve accuracy, and minimize the risk of skewing the results. Despite that, most of the methods applied to fats and oils sample preparation are still tied to traditional, time- and solvent-consuming procedures. The complexity of the food matrices led to challenging sample preparation, for example, the time-consuming saponification. Over the years traditional techniques have been improved, but they are still relying on ancient technologies, so now laboratories are seeking new approaches to ensure fast, rugged, and reproducible analysis of food.

Microwave assisted solvent extraction (MASE) and microwave assisted saponification (MAS) offer a reliable and efficient approach to sample preparation. Several processes can take advantages from microwave heating, reducing time and solvent consumption, enabling the lab to have a greener and more cost-effective approach. In this section some examples will be reported ranging from extraction of contaminants (MOAH and MOSH), to saponification and extraction of DAKs and sterols, to fatty acid methyl ester profile determination from foodstuff.