

**November 3, 2021 (11:00-11:45, CET)**



**VENDOR WEBINAR:**

## **Automated Solutions for the Analysis of MOSH/MOAH and Mycotoxins in Food**

---

### **Development & Advances for MOSH MOAH Analytics**

*Michael Koch, IKB/ Institute Kirchoff Berlin part of Mérieux NutriSciences, Berlin, Germany*

Saturated and aromatic hydrocarbons, the so-called "MOSH MOAH contaminants", have been the focus of sustained public interest for some time. These contaminants are now considered undesirable in food, consumer goods and cosmetics. As a result, a relevant analytical test point has been established and manifested. The basic method for this was published in 2017 in the form of EN method 16995. With this method, it is possible to analyse MOSH/MOAH in vegetable oils and foods based on vegetable oils with the LOQ of 10 mg/kg. Then, in December 2020, a new standard method (DGF C-VI 22 (20)) was established by the German Society for Fat Science (DGF), based on an extensive interlaboratory comparison and proficiency test. With this method, an LOQ of 1 mg/kg can be achieved. Two main techniques have been established for routine practice. First, that always preceding online LCGC/FID test method for indexing and quantification. The other is the GCxGC/TOF-MS technique, which is used in the event of a positive finding via the LCGC/FID procedure. This technique verifies the findings for marker compounds as well as confirmed or false positive. In addition, this analytical system allows the characterization of the sample components. In order to be able to make a qualified and profound statement with both technical procedures, it is essential and important to carry out the sample preparation steps relevantly, precisely and with high quality. With the development of analytical methods and the corresponding automation of the various work steps, there is a strong interest in constantly optimizing these individual steps as well as the entire workflow.

In this short lecture, the effects of application and technical innovations in terms of optimization on analytics will be highlighted. Case studies on the matrices edible oils, chocolate products & milk powder will show potential advances. Specifically, the focus will be on a new, m-cpba-free epoxidation process and the current generation of GCxGC/TOF-MS measurement technology.

### **A New Online System for the Analysis of Mycotoxins in Food**

*Elizabeth Manning, International Sales & Business Development Manager, R-Biopharm Rhône Ltd*

Busy laboratories with high numbers of analyses to perform (greater than 10 analyses per day) are often under pressure to provide results sooner for their customer or for internal release of

manufacturing produce. This can lead to mistakes at the bench resulting in reduced quality and performance of analysis. Laboratories are often tasked to improve efficiency without increasing headcount or reducing the quality of results and putting additional pressure on staff and resources. The benefits of the new CHRONECT Symbiosis RIDA®CREST system, a fully automated clean up system which uses IMMUNOPREP® ONLINE affinity cartridges for testing a range of mycotoxins from sample extraction to final detection. The system offers a front-end solution with a versatile software - CHRONOS Symbiosis which is compatible with the majority of mainstream detector systems including FLD, UV and mass spectrometry. CHRONOS organises processes in parallel and combines sample preparation and analysis in one user interface providing results sooner. Different modules can be selected to meet the requirements of any busy laboratory. Each affinity cartridge is suitable for up to 15 analyses, saving space and offering the possibility to include a QC check or sample blank to meet the strictest accreditation standards. The system with IMMUNOPREP®ONLINE affinity cartridges is shown to remove sample interference leading to improved chromatography and better sensitivity. Previous manual steps are precisely controlled decreasing analytical error and significantly reducing data variability leading to improved performance and greater laboratory efficiency.

The new system CHRONECT Symbiosis RIDA®CREST has been tested using methods for Aflatoxin and Ochratoxin A meeting performance requirements recommended by CEN and AOAC.