

Adaptations and Improvements for the Determination of Mineral Oil Hydrocarbons in Food, Cosmetics and Packaging by online HPLC-GC-FID

Dear customer,

We are very pleased to be able to offer you our **new optimized epoxidation method** in the future. With the enhancement of the international standard DIN EN 16995:2017 "Determination of saturated petroleum hydrocarbons (MOSH) and aromatic petroleum hydrocarbons (MOAH) with on-line HPLC-GC-FID", we have achieved a **significant improvement (50% less interference in difficult matrices)** for the analysis of mineral oil hydrocarbons (MOH). With the higher purification efficiency of the new technique, we will be able to report the usual limit of quantification for the MOAH (MOAH = mineral oil aromatic hydrocarbons) fraction for the majority of samples. The adaptation of the epoxidation procedure has been **fully validated**, and the accuracy of the results has been confirmed in a laboratory intercomparison study. Due to our flexible accreditation, the **method remains accredited**. The change **will not affect the recovery of MOAH**. Therefore, there will be no negative impact on still ongoing monitoring programs.

Due to this important method improvement and due to customer requests we are able to implement the following **changes to the test reports** of Institut Kirchhoff Berlin GmbH part of Mérieux NutriSciences **as sample receipt of October 1st, 2021**:

1. Due to the improvement of the epoxidation procedure **we will report the integrated sum for both fractions as an information additional to the calculated sum**. As an effect the limit of quantification (LoQ) will be sample dependent since samples with a raised LoQ of single fractions will be raised in the sum as well.
2. If required, your samples will be subjected to an additional purification of the **MOSH fraction** (MOSH = mineral oil saturated hydrocarbons) **with aluminum oxide** for the separation of food borne, biogenic hydrocarbons (odd-numbered paraffins, mainly from C23 to C35).
Similarly, the sample is subjected to additional purification of the **MOAH fraction**, in case biogenic olefinic substances (e.g. squalene, terpenes, phytosterols) have to be removed **by epoxidation**.
To allow better traceability and transparency of **our results we will list the applied clean-up procedures (aluminium oxide clean-up of the MOSH fraction, epoxidation of the MOAH fraction) in the test report**.

Do you have any further questions regarding the aforementioned changeover or do you need additional information? Your personal contact persons are at your disposal or please contact our general email address: ikb.de@mxns.com.

Yours sincerely, Institut Kirchhoff Berlin - Team