

Reference Material

MOSH/MOAH in coconut oil

P2301-RMCo



- Summary -

Please note:

Reference material P2301-RMCo is a validated control material and not a certified reference material. The reference material is validated in method ring test P2301-MRT with 19 laboratories. The method ring test is organised, performed and evaluated according to the requirements of DIN EN ISO/IEC 17043 and the “International Harmonized Protocol”. DIN ISO 13528 is considered during the evaluation of the submitted results of P2301-MRT and during homogeneity testing. Details related to the applied statistics are summarised in the full specification, which is provided after purchase of the reference material.

The reference material P2301-RMCo consists of 50 g of coconut oil, which is spiked with two different lubricant oils and a technical white oil (see table 1).

The corresponding unspiked coconut oil is available as blank material P2301-BLCo (50 g). The blank material contains total MOSH at trace levels of about 1 mg/kg, while total MOAH is < 1.0 mg/kg (see table 2).

19 laboratories took part in the method ring test P2301-MRT. The spiked levels as well as the assigned values, which are calculated of the results of the participants of the method ring test P2301-MRT, are summarised in table 1.

Table 1. Reference material P2301-RMCo - spiked levels and assigned values

Parameter	Spiked level [mg/kg]	Assigned value [mg/kg]	Total number of results
Total MOSH (total hump) (≥ n-C10 to ≤ n-C50)	7.1	7.51	17
Total MOAH (total hump) (≥ n-C10 to ≤ n-C50)	4.8	3.16	17

Table 2. Blank material P2301-BLCo - assigned values

Parameter	Spiked level [mg/kg]	Assigned value [mg/kg]	Total number of results
Total MOSH (total hump) (≥ n-C10 to ≤ n-C50)	unspiked	1.07	11
Total MOAH (total hump) (≥ n-C10 to ≤ n-C50)	unspiked	< 1.00	17

Total MOSH and total MOAH are determined according to the guidance document of JRC:

“[...] by integration of the whole signal interval in the chromatogram, starting at the retention time of the peak start of n-C10 and ending at the retention time of the peak end of n-C50 after the elimination of the identified sharp peaks above the hump and if possible, elimination of POH and/or POA signals.”

(Bratinova S, Hoekstra E. Guidance on sampling, analysis and data reporting for the monitoring of mineral oil hydrocarbons in food and food contact materials. Luxembourg: Publications Office of the European Union; 2019, Page 16).