

Reference Material MOSH/MOAH in palm oil P2204-RMPa



- Summary -

Please note:

Reference material P2204-RMPa is a validated control material and not a certified reference material. The reference material is validated in method ring test P2204-MRT with 18 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 P2204-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 P2204-RMPa consists of 50 g of palm oil, which is spiked with a technical white oil (see table 1). The palm oil contains MOSH due to a contamination of the raw material during the production process.

The corresponding unspiked palm oil is available as blank material P2204-BLPa (50 g). The blank material contains total MOSH at a level of about 15 mg/kg, while total MOAH is < 1.0 mg/kg (see table 2).

18 laboratories took part in the method ring test P2204-MRT. The spiked level as well as the assigned values, which are calculated of the results of the participants of the method ring test P2204-MRT, are summarised in table 1.

Table 1. Reference material P2204-RMPa - spiked levels and assigned values

Parameter	Spiked level [mg/kg]	Assigned value [mg/kg]	Total number of results
Total MOSH (total hump) (\geq n-C10 to \leq n-C50)	unspiked	15.2	15
Total MOAH (total hump) (\geq n-C10 to \leq n-C50)	8.2	6.49	14

Table 2. Blank material P2204-BLPa - assigned values

Parameter	Spiked level [mg/kg]	Assigned value [mg/kg]	Total number of results
Total MOSH (total hump) (\geq n-C10 to \leq n-C50)	unspiked	14.9	15
Total MOAH (total hump) (\geq n-C10 to \leq n-C50)	unspiked	< 1.0	14

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).