

Reference Material MOSH/MOAH in rapeseed oil P2204-RMRs



- Summary -

Please note:

Reference material P2204-RMRs 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-RMRs consists of 2 x 40 ml of rapeseed oil, which is spiked with a lubricant oil and a technical white oil (see table 1).

The corresponding unspiked rapeseed oil is available as blank material P2204-BLRs (2 x 40 ml). The blank material contains total MOSH at trace levels of about 1-2 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 levels 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-RMRs - 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)	16	15.5	16
Total MOAH (total hump) (\geq n-C10 to \leq n-C50)	5.0	4.61	15

Table 2. Blank material P2204-BLRs - 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	1.71	16
Total MOAH (total hump) (\geq n-C10 to \leq n-C50)	unspiked	< 1.0	15

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).