

Reference Material MOSH/MOAH in palm oil

P2401-RMPa



Summary

Reference material P2401-RMPa is validated in method ring test P2401-MRT, which 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 P2401-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.

Reference material P2401-RMPa consists of 50 g of palm oil, which is contaminated with MOSH and spiked with MOAH with a technical white oil (see table 1).

The corresponding unspiked palm oil is available as blank material P2401-BLPa (50 g). The blank material contains about 20.0 mg/kg of total MOSH, while it is free from MOAH (< 1 mg/kg) (see table 2).

20 laboratories took part in method ring test P2401-MRT. The spiked levels as well as the assigned values, which are calculated of the results of the participants of P2401-MRT, are summarised in table 1.

Table 1. Reference material P2401-RMPa - spiked levels and assigned values

Parameter	Spiked level [mg/kg]	Assigned value [mg/kg]	Total number of results
Total MOSH (≥ n-C10 to ≤ n-C50)	unspiked	20.9	20
Total MOAH (≥ n-C10 to ≤ n-C50)	3.3	2.20	20

* The assigned value refers to the spiked value plus the level of MOSH in the blank material.

Table 2. Blank material P2401-BLPa - assigned values

Parameter	Spiked level [mg/kg]	Assigned value [mg/kg]	Total number of results
Total MOSH (≥ n-C10 to ≤ n-C50)	unspiked	20.0	20
Total MOAH (≥ n-C10 to ≤ n-C50)	unspiked	< 1	11

In P2401-MRT, the labs were instructed to determine total MOSH and total MOAH in accordance with the guidance document of the Joint Research Centre of the European Commission (5) as follows:

“[...]by integrating the chromatogram,

- from the retention time of the beginning of the n-C10 peak;*
- to the retention time of the end of the n-C50 peak;*
- after the trimming of the riding peaks [...] above the hump(s); and*
- after the subtraction of/adjustment for the reagent blank (baseline).*

The obtained “corrected hump” should be an unambiguously identified smooth hump“ (page 15).