

Reference Material MOSH/MOAH in olive oil

P2401-RMOI



Summary

Reference material P2401-RMOI 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-RMOI consists of 2 x 40 ml of olive oil, which is spiked with a base oil, a lubricant oil and a technical white oil (see table 1).

The corresponding unspiked olive oil is available as blank material P2401-BLOI (2 x 40 ml). The blank material contains about 5.4 mg/kg of total MOSH as well as trace levels of total MOAH 1.0 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-RMOI - 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)	10	13.6*	19
Total MOAH (≥ n-C10 to ≤ n-C50)	5.2	4.66	19

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

Table 2. Blank material P2401-BLOI - assigned values

Parameter	Spiked level [mg/kg]	Assigned value [mg/kg]	Total number of results
Total MOSH (≥ n-C10 to ≤ n-C50)	unspiked	5.44	18
Total MOAH (≥ n-C10 to ≤ n-C50)	unspiked	1.04	12

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).