

Reference Material MOSH/MOAH in cocoa butter

P2502-RMCo



Summary

Reference material P2502-RMCo is validated in method ring test P2502-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 P2502-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 P2502-RMCo consists of 60 g of cocoa butter, which is spiked with a naphthenic process oil and a lubricant (see table 1).

The corresponding unspiked cocoa butter is available as blank material P2502-BLCo (60 g). The blank material contains about 6.1 mg/kg of total MOSH, while it is free from MOAH (< 1.0 mg/kg, see table 2).

15 laboratories took part in method ring test P2502-MRT related to the matrix cocoa butter. The spiked levels as well as the assigned values, which are calculated of the results of the participants of P2502-MRT, are summarised in table 1.

The results are evaluated with respect to the comparability criterion ($|z\text{-score}| \leq 2$) and the trueness criterion (70 to 120 % recovery of the spiked level). The results related to total MOSH in the blank material are subtracted from the results related to the test material for evaluation of the trueness of results. We recommend to order the blank material and the test material.

Table 1. Reference material P2502-RMCo - spiked levels and assigned values

Parameter	Spiked level [mg/kg]	Assigned value [mg/kg]	Total number of results
Total MOSH ($\geq n\text{-C10}$ to $\leq n\text{-C50}$)	11	17.3*	15
Total MOAH ($\geq n\text{-C10}$ to $\leq n\text{-C50}$)	5.3	5.38	15

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

Table 2. *Blank material P2502-BLCo - assigned values*

Parameter	Spiked level [mg/kg]	Assigned value [mg/kg]	Total number of results
Total MOSH (\geq n-C10 to \leq n-C50)	unspiked	6.08	15
Total MOAH (\geq n-C10 to \leq n-C50)	unspiked	<1.0	15

In P2502-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 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).