

Reference Material

Pyrrolizidine alkaloids and tropane alkaloids in fennel seeds

P2202-RMFe



- Summary -

Please note:

Reference material P2202-RMFe is a validated control material and not a certified reference material. The reference material is validated in method ring test P2202-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 P2202-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 consists of 70 g of milled fennel seeds (powder), which contain incurred residues of five PAs and are spiked with seven PAs and the tropane alkaloids hyoscyamine and scopolamine. (see table 1). The corresponding unspiked milled fennel seeds (80 g) are available as blank material P2202-BLFe. The blank material contains incurred residues of five PAs (see table 1, incurred).

The reference material is validated in a method ring test with 18 laboratories. The spiked levels as well as the assigned value, which is calculated of the results of the participants of P2202-MRT, are summarised in table 1.

Table 1. Spiked levels and assigned values

Parameter	Spiked level [mg/kg]	Assigned value [mg/kg]	Total number of results
Hyoscyamine	12	12.1	8
Scopolamine	18	19.1	12
Heliosupine-N-oxide	8.0	7.40	12
Intermedine	10	8.82	15
Lycopsamine	15	14.7	12
Rinderine	33	28.9	8
Senecionine	19	15.9	14
Senecivernine	26	21.5	15
Usaramine-N-oxide*	14	13.7	15
Europine	incurred	24.6	18
Europine-N-oxide	incurred	84.8	18
Heliotrine-N-oxide	incurred	2.77**	10
Lasiocarpine	incurred	4.41	14
Lasiocarpine-N-oxide	incurred	12.7**	17

* Spiked with usaramine-N-oxide. The sum of usaramine-N-oxide and retrorsine-N-oxide is considered for evaluation of P2202-MRT.

** The assigned values related to heliotrine-N-oxide and lasiocarpine-N-oxide are provided for information only. The two parameters are not included in the specification due to indications for inhomogeneity.