

Reference Material

Pyrrolizidine alkaloids in rooibos tea

P2307-RMRo



- Summary -

Please note:

Reference material P2307-RMRo is a validated control material and not a certified reference material. The reference material is validated in the ring test P2307-RT, 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 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 P2307-RMRo consists of 75 g of rooibos tea (powder), which is spiked with pyrrolizidine alkaloids (see table 1). The corresponding unspiked rooibos tea (75 g, powder) is available as blank material P2307-BLRo. The blank material contains trace levels of retrorsine, senecionine, integerrimine, and senecivernine-N-oxide (all < 10 µg/kg). It contains retrorsine-N-oxide/usaramine-N-oxide at a level of 12 µg/kg, senecionine-N-oxide and integerrimine-N-oxide at about 24 µg/kg (sum).

The reference material is validated in ring test P2307-RT with 10 laboratories. The spiked levels as well as the assigned values, which are calculated of the results of the participants of the ring test P2307-RT, are summarised in table 1.

Table 1. Spiked levels and assigned values

Parameter	Spiked level [µg/kg]	Assigned value [µg/kg]	Total number of results
Europine	26	25.5	10
Retrorsine	53	47.7	10
Senecionine	35	32.2	10
Seneciophylline	18	13.8	10
Senecivernine-N-oxide	44	-	6
Sum of senecionine-N-oxide / senecivernine-N-oxide / integerrimine-N-oxide	-	68.2	10
Senkirkine	65	52.3	10
Sum of retrorsine-N-oxide / usaramine-N-oxide	incurred	12.1	8
Trichodesmine	33	-	6