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Reference Material
Polar pesticides and contaminants in black tea

P2414-RMBt

Summary

Reference material P2414-RMBt is validated in the ring test P2414-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 P2414-RMBt consists of 100 g of milled black tea. The tea contains incurred residues of anthraquinone (about 0.008 mg/kg) and nicotine (0.15 mg/kg) and is spiked with 10 polar pesticides and contaminants (see table 1). The corresponding unspiked milled black tea (100 g) is available as blank material P2414-BLBt. The blank material contains incurred residues of nicotine and trace levels of anthraquinone (about 0.008 mg/kg) and is free from incurred residues of all other spiked parameters.

The reference material is validated in ring test P2414-RT with 11 laboratories. The spiked levels as well as the assigned values, which are calculated of the results of the participants of the ring test P2414-RT, are summarised in table 1. Assigned values of biphenyl, glyphosate, AMPA, diquat, paraquat, matrine, and oxymatrine are not available due to limited number of data reported in P2414-RT. The spiked levels are considered for evaluation of the parameters.

Table 1. Spiked levels and assigned values

Parameter	Spiked level [mg/kg]	Assigned value [mg/kg]	Total number of results
Anthraquinone	0.037	0.0452	122*
Biphenyl	0.069	-	-
Chlorate	0.055	0.0565	103
Perchlorate	0.23	0.217	95
Nicotine	incurred	0.146	-
Glyphosate	0.19	-	-
AMPA	0.057	-	-
Diquat	0.062	-	-
Paraquat	0.093	-	-
Matrine	0.12	-	-
Oxymatrine	0.088	-	-

* The blank material contains incurred residues of anthraquinone (about 0.008 mg/kg), which are considered for evaluation. The accepted range related to the trueness of results of anthraquinone is extended to 0.054 mg/kg (120 % of the spiked level plus incurred anthraquinone of 0.008 mg/kg).