

Reference Material of
rolling proof 2022
Multi-method pesticides in
garam masala
P2221-RMGa



- Summary -

Please note:

Reference material P2221-RMGa is a validated control material and not a certified reference material. The reference material is validated in ring test P2221-RT, which is organised, performed and evaluated according to the requirements of DIN EN ISO/IEC17043 and the "International Harmonized Protocol". DIN ISO13528 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 P2221-RMGa consists of 100 g of garam masala (powder), which is spiked 31 multi-method pesticides (see table 1). 29 pesticides are included in the specification, while chlorothalonil and thiophanate-methyl are not included due to degradation. The corresponding unspiked garam masala (100 g) is available as blank material P2221-BLGa. The blank material is free from all spiked parameters at a level of 0.01 mg/kg (not detected).

The reference material is validated in ring test P2221-RT with 7 laboratories. The spiked levels as well as the assigned values, which are calculated of the results of the participants of the ring test P2221-RT, are summarised in table 1. Assigned values are calculated for 14 out of 29 pesticides due to the limited number of reported results in P2221-RT.

Table 1. Spiked levels and assigned values

Parameter	Spiked level [mg/kg]	Assigned value [mg/kg]	Total number of results
2,4-DDT	0.067	-	7
Aldicarb sulfone	0.047	-	5
Aldrin	0.085	0.0744	7
Bifenazate*	0.18	-	6
Chlorothalonil**	0.082	-	6
Chlorpyrifos-methyl	0.045	-	6
Clomazone	0.029	0.0260	7
Demeton-S-methyl-sulfone	0.068	0.0655	7
Dichlorvos	0.062	-	6
Dimethoate	0.070	0.0609	7
Dimethomorph	0.45	0.425	7
Diuron	0.081	-	6
Endosulfan- α	0.033	0.0296	7
Epoxiconazole	0.088	0.0819	7
Ethoprophos	0.054	-	6
Etofenprox	0.094	-	6
Fenhexamid	0.15	-	5
Fludioxonil	0.069	0.0629	7
Flusilazole	0.022	-	5
Hexaconazole	0.088	-	5
Imidacloprid	0.12	0.115	7
Metolachlor	0.072	0.0621	7
Parathion	0.066	-	6
Phorate	0.028	-	6
Pirimiphos-methyl	2.1	1.70	7
Prometryn	0.036	0.0350	7
Propiconazole	0.10	-	6
Pyrimethanil	0.067	0.0621	7
Tebuconazole	0.32	0.286	7
Teflubenzuron	0.045	-	6
Thiophanate-methyl***	0.035	-	4

* Sum bifenazate and bifenazate-diazene, expressed as bifenazate.

** For information only. Chlorothalonil is not included in the specification due to degradation.

*** For information only. Thiophanate-methyl is not included in the specification due to degradation.