

Reference Material

Free acids, esters and glucosides of acidic herbicides in broccoli

P2614-RMBr



Summary

Reference material P2614-RMBr is validated in the ring test P2614-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 P2614-RMBr consists of 120 g of broccoli homogenate, which is spiked with free acids, esters, and conjugates of acidic herbicides (see table 1).

The reference material is validated in ring test P2614-RT with 17 laboratories. The spiked levels as well as the assigned values, which are calculated of the results of the participants of the ring test P2614-RT, 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
2,4-D (sum) with hydrolysis	0.088*	0.0882	16
spiked: 2,4-D butyl ester	0.11		
Fluazifop (sum) with hydrolysis	0.26*	0.275	15
spiked: fluazifop-p-butyl	0.31		
Fluroxypyr (sum) with hydrolysis	0.038*	0.0423	13
spiked: fluroxypyr methylheptyl	0.055		
Haloxypop (sum) with hydrolysis	0.067*	0.0695	16
spiked: haloxypop methyl ester	0.070		
MCPA (sum) with hydrolysis	0.082*	0.0827	16
spiked: MCPA glucoside	0.13		
Clopyralid (without hydrolysis)	0.22	0.194	15
Fenoxaprop (without hydrolysis)	0.081	0.0680	9

* Calculated of the concentration level of the respective spiked ester or glucoside.

The results related to acidic herbicides, which are spiked as esters or glucosides are evaluated after hydrolysis as the sum of free acids, esters, and conjugates, expressed as the free acids according to the residue definitions. Acidic herbicides, which are spiked as free acids are evaluated related to the results without hydrolysis.