

# Reference Material

## Free acids, esters and glucosides of acidic herbicides and the glucoside of o-phenylphenol in orange

P2428-RMOr



## Summary

Reference material P2428-RMOr is validated in the ring test P2428-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 P2428-RMOr consists of 100 g of an orange homogenate, which is spiked with free acids, esters, and conjugates of acidic herbicides and with the glucoside of o-phenylphenol (see table 1).

The reference material is validated in ring test P2428-RT with 14 laboratories. The spiked levels as well as the assigned values, which are calculated of the results of the participants of the ring test P2424-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 spiked as 2,4-D butyl ester	0.17*	0.152	14
	0.21		
2,4-Dichlorprop (sum) with hydrolysis spiked as 2,4-dichlorprop-glucoside	0.13*	0.126	14
	0.22		
2,4,5-T (sum) with hydrolysis spiked as 2,4,5-T ethylhexyl ester	0.035*	0.0300	13
	0.050		
Fluroxypyr (sum) with hydrolysis spiked as fluroxypyr methylheptyl ester	0.030*	0.0253	13
	0.043		
MCPA (sum) with hydrolysis spiked as 2-ethylhexyl ester	0.042*	0.0367	14
	0.066		
o-Phenylphenol spiked as o-phenylphenol glucoside	0.41*	-	11
	0.80		
4-CPA (free acid, without hydrolysis)	0.066	0.0597	13
Clopyralid (free acid, without hydrolysis)	0.088	0.0808	13
Fenoxaprop-P (free acid, without hydrolysis)	0.077	0.0795	13
Triclopyr (free acid, without hydrolysis)	0.084	0.0777	14

\* 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 acid according to the residue definitions.

Acidic herbicides, which are spiked as free acids are evaluated without hydrolysis.

The results related to o-phenylphenol, which was spiked as glucoside are evaluated after hydrolysis in accordance with the residue definition. The comparability criterion is not applicable for evaluation of o-phenylphenol due to the broad concentration range of the reported results in P2428-RT. The accepted ranges related to the trueness criterion (70 to 120 % of the spiked level) are specified for the reference material P2428-RMOr.