

Reference Material Phenols in groundwater

P2537-RMGw



Summary

Reference material P2537-RMGw is validated in the ring test P2537-RT, which is organised, performed, and evaluated according to the requirements of DIN EN ISO/IEC 17043 and the “International Harmonized Protocol”. 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 P2537-RMGw consists of 100 ml of a groundwater samples, which is spiked with six phenols, phenol, catechol, hydroquinone, o-cresol, m-cresol, and p-cresol (see table 1). Resorcinol was spiked as well, but due to degradation, resorcinol is not included in the specification of the reference material.

The corresponding unspiked groundwater (100 ml) is available as blank material P2537-BLGw. The blank material is free from all spiked phenols at a level of $> 0.5 \mu\text{g/l}$ (LOQ of the lab).

The reference material is validated in ring test P2537-RT with 8 laboratories. The spiked levels as well as the assigned values, which are calculated of the results of the participants of the ring test P2537-RT, are summarised in table 1. Assigned values are available for phenol, o-, m-, and p-cresol. Due to the limited number of reported results in P2537-RT, the comparability criterion is not applicable to catechol and hydroquinone. The spiked levels as well as an accepted range of 70 to 120 % of the spiked level are considered for evaluation of catechol and hydroquinone.

Table 1. Spiked levels and assigned values

Parameter	Spiked level [$\mu\text{g/l}$]	Assigned value [$\mu\text{g/l}$]	Total number of results
Phenol	6.2	6.21	8
Catechol	2.6	-	6
Hydroquinone	0.68	-	6
o-Cresol	3.7	3.38	8
m-Cresol	1.8	1.70	8
p-Cresol	4.3	3.87	8