
**Water quality — Determination of selected
monovalent phenols —**

Part 2:
Method by derivatization and gas
chromatography

Qualité de l'eau — Dosage des phénols monovalents sélectionnés —

Partie 2: Méthode par dérivatisation et chromatographie en phase gazeuse



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 8165-2 was prepared by Technical Committee ISO/TC 147, *Water quality*, Subcommittee SC 2, *Physical, chemical and biochemical methods*.

ISO 8165 consists of the following parts, under the general title *Water quality — Determination of selected monovalent phenols*:

- *Part 1: Gas-chromatographic method after enrichment by extraction*
- *Part 2: Method by derivatization and gas chromatography*

Annex A of this part of ISO 8165 is for information only.

Water quality — Determination of selected monovalent phenols —

Part 2: Method by derivatization and gas chromatography

1 Scope

This part of ISO 8165 specifies a method for the determination of phenols by gas chromatography, following pentafluorobenzoyl chloride (PFBC) derivatization. It may in particular be applied to the examination of drinking water, ground water and moderately contaminated surface water. With this method, lower limits of detection may be obtained compared with extraction procedures.

Since other reactive compounds such as amines and in some cases alcohols may also react, this method is not applicable in all cases to the examination of waste water. The applicability to the examination of waste water should be investigated for each individual case.

This method allows the determination of the phenols listed in Table 1 in a concentration range $\geq 0,1 \mu\text{g/l}$. Other monovalent phenols may also be analysed using this method, but the applicability needs to be checked for each individual case.

Table 1 — Phenols to which this method is applicable

phenol	2-cyclopentyl-4-chlorophenol
2-methylphenol	4-chloro-2-benzylphenol
3-methylphenol	6-chloro-5-methyl-2-(1-methylethyl)phenol
4-methylphenol	2,3-dichlorophenol
2,4-dimethylphenol	2,4-dichlorophenol
4-ethylphenol	2,5-dichlorophenol
2,6-bis(1,1-dimethylethyl)-4-methylphenol	2,6-dichlorophenol
2-phenylphenol	2,4,6-trichlorophenol
2-benzylphenol	2,3,5-trichlorophenol
2-benzyl-4-methylphenol	2,4,5-trichlorophenol
2-chlorophenol	2,3,6-trichlorophenol
3-chlorophenol	2,3,4,5-tetrachlorophenol
4-chlorophenol	2,3,4,6-tetrachlorophenol
4-chloro-2-methylphenol	2,3,5,6-tetrachlorophenol
4-chloro-3-methylphenol	pentachlorophenol
6-chloro-3-methylphenol	
2,4-dichloro-3,5-dimethylphenol	
2-chloro-4- <i>t</i> -butylphenol	