

INTERNATIONAL STANDARD

ISO
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Water quality — Determination of selected monovalent phenols —

Part 1:

Gas-chromatographic method after enrichment
by extraction

*Qualité de l'eau — Dosage des phénols monovalents sélectionnés —
Partie 1: Méthode par chromatographie en phase gazeuse après
enrichissement par extraction*



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Foreword

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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 8165-1 was prepared by Technical Committee ISO/TC 147, *Water quality*, Sub-Committee SC 2, *Physical, chemical, 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 after derivatization with pentafluoro-benzoyl bromide*

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Introduction

In the determination of phenols by gas chromatography, several pre-treatment methods may be applied depending on the problem to be solved. Basically, the extraction procedure described in this International Standard may be applied to all kinds of water. Compared with derivatization procedures, the limits of determination achievable with this procedure are not quite as low. On the other hand, the derivatization procedures are more likely to be interfered with by compounds such as amines and sometimes alcohols, therefore these procedures cannot be applied to all kinds of waste water.

Water quality — Determination of selected monovalent phenols —

Part 1:

Gas-chromatographic method after enrichment by extraction

1 Scope

This part of ISO 8165 specifies a method for the determination of the phenols presented in table 1 in a concentration range from 0,1 µg/l to 1 mg/l. The concentration range depends on the nature of the phenols to be determined and on the gas chromatographic method used.

Other monovalent phenols may also be analyzed according to this procedure, the applicability, however, should be investigated for each particular case.

Table 1 — Phenols determinable using this method

Phenol
2-Methylphenol
3-Methylphenol
4-Methylphenol
2,4-Dimethylphenol
4-Ethylphenol
2,6-Di- <i>tert</i> -butyl-4-methylphenol
2-Phenylphenol
2-Benzylphenol
2-Benzyl-4-methylphenol
2-Chlorophenol
3-Chlorophenol
4-Chlorophenol
4-Chloro-2-methylphenol
4-Chloro-3-methylphenol
2,4-Dichloro-3,5-dimethylphenol
2-Cyclopentyl-4-chlorophenol
6-Chlorothymol
2,3-Dichlorophenol
2,4-Dichlorophenol
2,5-Dichlorophenol
2,6-Dichlorophenol
2,4,6-Trichlorophenol
2,3,5-Trichlorophenol
2,4,5-Trichlorophenol
2,3,6-Trichlorophenol
2,3,4,5-Tetrachlorophenol
2,3,4,6-Tetrachlorophenol
2,3,5,6-Tetrachlorophenol
Pentachlorophenol
1-Naphthol
2-Naphthol
6-Chloro-3-methylphenol
2-Chloro-4- <i>tert</i> -butylphenol
4-Chloro-2-benzylphenol