

Water quality

Part 2. Physical, chemical and biochemical methods

Section 2.12 Determination of phenol index: 4-aminoantipyrine (4-aminophenazone) spectrometric methods after distillation

Qualité de l'eau
Partie 2. Méthodes physiques, chimiques et biochimiques
Section 2.12 Détermination de l'indice phénol —
Méthode spectrométrique à l'amino-4-antipyrine après distillation

Wasserqualität
Teil 2. Physikalische, chemische und biochemische Verfahren
Abschnitt 2.12 Bestimmung des Phenol-Indexes; spektralanalytisches Verfahren mit 4-Aminoantipyrin (4-Aminophenazon) nach Destillation

National foreword

This Section of BS 6068, which has been prepared under the direction of the Environment and Pollution Standards Policy Committee, is identical with ISO 6439 : 1990 'Water quality — Determination of phenol index — 4-Aminoantipyrine spectrometric methods after distillation'.

The international standard was prepared by subcommittee 2, Physical, chemical and biochemical methods, of Technical Committee 147, Water quality, of the International Organization for Standardization (ISO) with the active participation and approval of the UK.

This Section of BS 6068 is a revision of the 1984 edition of BS 6068 : Section 2.12, which is withdrawn and which was identical to ISO 6439 : 1984. There are a number of minor technical clarifications and changes between this revision and BS 6068 : Section 2.12 : 1984. There are changes to clauses 1, 2, 4.2.1, 4.2.16.4, 4.5.3, 4.6.4 and 4.8.1.

NOTE. The tests described in this Section of BS 6068 should only be carried out in laboratories with suitable facilities and by suitably qualified persons with an appropriate level of chemical expertise. Standard chemical procedures should be followed throughout.

BS 6068 is being published in a series of Parts subdivided into Sections that will generally correspond to particular international standards. Sections are being, or will be, published in Parts 1 to 7, which, together with Part 0, are listed below.

Part 0	Introduction
Part 1	Glossary
Part 2	Physical, chemical and biochemical methods
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Part 4	Microbiological methods
Part 5	Biological methods
Part 6	Sampling
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Cross-references

International standard	Corresponding British Standard
	BS 6068 Water quality
ISO 5667-1 : 1980	Section 6.1 : 1981 Guidance on the design of sampling programmes (Identical)
ISO 5667-2 : 1982	Section 6.2 : 1983 Guidance on sampling techniques (Identical)
IOS 5667-3 : 1985	Section 6.3 : 1986 Guidance on the preservation and handling of samples (Identical)

The introduction to the International Standard reads as follows.

The term 'phenol index' as used in this International Standard only includes phenols which react with 4-aminoantipyrine under the conditions specified to give coloured compounds.

In a water containing phenol itself, there will usually be associated with it other phenolic compounds whose sensitivity to the reagents used in the following methods may not necessarily be the same.

The percentage composition of the various phenolic compounds (3.1) present in a given test sample is unpredictable. It is obvious, therefore, that a standard containing a mixture of phenolic compounds cannot be made applicable to all test samples. For this reason, phenol (C_6H_5OH) has been selected as a standard, and any colour produced by the reaction of other phenolic compounds is measured as phenol and reported as the phenol index (3.2).

It is not possible to use the procedures specified in this International Standard to differentiate between kinds of phenols. Some phenolic compounds with substituents such as alkyl, aryl and nitro in the *para* position do not produce colour with 4-aminoantipyrine. Phenolic compounds containing *para* substituents such as a carboxyl, halogen, hydroxyl, methoxyl or sulfonic acid, do produce colour with 4-aminoantipyrine. Hence the phenol index includes only those phenolic compounds which can be determined under specified conditions.

Textual errors. When adopting the text of the international standard, the following textual errors were discovered. They have been marked in the text and have been reported to ISO in a proposal to amend the text of the international standard.

In 4.5.1, line 2, '[4.4.2b)]' should be read as '[4.4b)]'.

In 4.7, the second paragraph should be deleted.

Compliance with a British Standard does not of itself confer immunity from legal obligations.