BRITISH STANDARD

BS 4258-9: 1989

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Methods of test for

Phosphoric acid (orthophosphoric acid) for industrial use —

Part 9: Determination of chloride content

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Chemicals Standards Policy Committee (CIC/-) to Technical Committee CIC/37, upon which the following bodies were represented:

Association of Public Analysts
British Coal Corporation
Chemical Industries Association
Department of Trade and Industry (Laboratory of the Government Chemist)
Fertiliser Manufacturers' Association Ltd.
Institute of Trading Standards Administration
Ministry of Agriculture, Fisheries and Food
Ministry of Defence

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Foreword

This Part of BS 4258 has been prepared under the direction of the Chemicals Standards Policy Committee to provide methods for the analysis of phosphoric acid (orthophosphoric acid) for industrial use. This Part supersedes BS 4258-9:1978, which is withdrawn, and from which it differs by making substantial reference to BS 6337-4, possession of which is essential. This Part includes a procedure for the preparation of a test solution suitable for subsequent treatment and determination of chloride ions in accordance with the general method which reflects current practice in technique and presentation.

This Part is closely related to ISO 3708, from which it differs in the same way as from BS 4258-9:1978.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 and 2, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

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1 Scope

This Part of BS 4258 describes a potentiometric method for determination of the chloride content of phosphoric acid (orthophosphoric acid) for industrial use. It is applicable to products having chloride contents of between 1 mg/kg and 1 500 mg/kg.

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

2 Principle

The principle is described in clause **3** of BS 6337-4:1984.

3 Reagents

The reagents described in clause **4** of BS 6337-4:1984 and water complying with grade 3 of BS 3978 are required.

4 Apparatus

The apparatus described in clause **5** of BS 6337-4:1984 is required.

5 Procedure

5.1 Test portion and preparation of the test solution

Into a low-form beaker of convenient capacity (for example 400 mL), weigh, to the nearest 0.001 g, a test portion of approximately 50 g, containing between 50 µg and 75 000 µg of chlorine. Add 20 mL of water and swirl to dissolve.

NOTE 1 It is recommended that reference be made to the information on sampling given in BS 4258-12.

NOTE 2 It is recommended that the test solution contain at least 150 µg of chlorine.

5.2 Determination

Determine the chloride content of the whole of the test solution by following the procedure described in clause **6** of BS 6337-4:1984, using as titrant silver nitrate solution of the appropriate strength depending on the expected chloride ion content, and adding 2 mL of the nitric acid (see **6.2.2** and **6.2.3** of BS 6337-4:1984).

6 Calculation and expression of results

Calculate the mass of chloride, expressed as chlorine (Cl) (in g) in the test solution from the formula given in clause **7** of BS 6337-4:1984.

The chloride content, expressed as milligrams of chlorine (Cl) per kilogram, is given by the following expression:

$$\frac{m_1 \times 10^6}{m_2}$$

where

m_1 is the mass of chlorine found in the test solution (see **5.2**) (in g);

m_2 is the mass of the test portion (see **5.1**) (in g).

7 Test report

The test report shall include the following information:

a) a complete identification of the sample;

b) a reference to this British Standard, i.e. BS 4258-9:1989;

c) the results expressed in accordance with clause **6**;

d) details of any unusual features noted during the determination;

e) any operation not included in this British Standard or regarded as optional.

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Publications referred to

BS 3978, *Specification for water for laboratory use.*

BS 4258, *Methods of test for phosphoric acid (orthophosphoric acid) for industrial use.*

BS 4258-12, *Guide to sampling techniques.*

BS 6337, *General methods of chemical analysis.*

BS 6337-4, *Method for determination of chloride ions by potentiometry.*

ISO 3708, *Phosphoric acid for industrial use (including foodstuffs) — Determination of chloride content — Potentiometric method*[1)].

[1)] Referred to in the foreword only.

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