

Methods of test for Desiccants —

Part 4: Determination of water-soluble chlorides content

NOTE It is recommended that this Part be read in conjunction with BS 3482-1 “*Sampling, and preparation and storage of test samples*” which is issued separately.

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/2, upon which the following bodies were represented:

- Chemical Industries Association
- Ministry of Defence
- Royal Society of Chemistry
- Society of British Aerospace Companies Limited
- Society of Environmental Engineers

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Foreword

This Part of BS 3482 has been prepared under the direction of the Chemicals Standards Policy Committee. This revision of BS 3482 comprises Part 1, which describes procedures for sampling and preparation and storage of test samples and a number of Parts describing methods of test for desiccants. This revision supersedes BS 3482:1962 which is withdrawn. It differs from BS 3482:1962 in that individual methods have been published in separate Parts and have been generally updated. Some additional methods not included in BS 3482:1962 have also been incorporated.

This Part of BS 3482 also supersedes the methods given in Appendix D of BS 2540:1960 and Appendix D of BS 2541:1960 which are withdrawn.

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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.

1 Scope

This Part of BS 3482 describes a method for the determination of the water-soluble chlorides content of desiccants.

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

2 Principle

Chlorides are extracted from the sample by refluxing with boiling water. The resulting solution is titrated with standard silver nitrate solution.

3 Reagents

3.1 General. Use only reagents of recognized analytical grade and water complying with grade 3 of BS 3978.

3.2 Silver nitrate standard volumetric solution, $c(\text{AgNO}_3) = 0.100 \text{ mol/L}$.

3.3 Potassium chromate solution, $c(\text{K}_2\text{CrO}_3) = 5 \% (\text{m/m})$.

4 Apparatus

4.1 Ordinary laboratory apparatus and the following are required.

4.2 Filter paper, fine grade.

4.3 Burette, of maximum capacity 10 mL, complying with class A of BS 846.

5 Preparation of the test sample

Prepare at least 400 mL of aqueous extract by the method described in BS 3482-1. Filter the extract through the filter paper (4.2).

6 Procedure

6.1 Test portion

Transfer 200 mL of the test sample to a 500 mL flask (clause 5).

6.2 Titration

Add 5 mL of the potassium chromate solution (3.3) to the flask containing the test portion. Mix well.

Titrate with the silver nitrate solution (3.2) using the burette (4.3) until the reddish coloration of silver chromate just forms and persists for at least 15 s. Record the volume of silver nitrate solution required (in millilitres).

7 Calculation and expression of results

Calculate the water-soluble chlorides content, as a percentage by mass of sodium chloride (NaCl), from the following expression:

$$\frac{V}{1000} \times 0.10 \times 58.5 \times \frac{500}{(50 \times 200)} \times 100$$

which reduces to

$$0.02925 V$$

where:

V is the volume of silver nitrate solution used in the titration (6.2) (in mL).

8 Test report

The test report shall include the following information.

- A complete identification of the sample.
- A reference to this British Standard method, i.e. BS 3482-4:1991.
- The result expressed in accordance with clause 7.
- Any unusual features noted during the determination.

Publication(s) referred to

BS 846, *Specification for burettes.*

BS 3482, *Methods of test for desiccants.*

BS 3482-1, *Sampling, and preparation and storage of samples.*

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

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