

# Ammonium nitrate —

## Part 10: Method for determination of matter soluble in diethyl ether

# 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 Aggregate Construction Materials Industries  
 British Coal Corporation  
 Chemical Industries Association  
 Consumers' Association  
 Department of Trade and Industry (Laboratory of the Government Chemist)  
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 Horticultural Trades Association  
 Institute of Trading Standards Administration  
 Ministry of Agriculture, Fisheries and Food  
 Ministry of Defence

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The following BSI references relate to the work on this standard:  
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## Foreword

This Part of BS 4267 has been prepared under the direction of the Chemicals Standards Policy Committee.

This British Standard calls for the use of substances and/or procedures that may be injurious to health if adequate precautions are not taken. It refers only to technical suitability and does not absolve the user from legal obligations relating to health and safety at any stage.

**WARNING.** Ammonium nitrate is an oxidizing agent. If necessary, break up the test sample by crushing rather than grinding.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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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 4267 describes a gravimetric method for the determination of matter soluble in diethyl ether in ammonium nitrate for industrial use.

## 2 Normative reference

This Part of BS 4267 incorporates, by reference, provisions from a specific edition of another publication. This normative reference is cited at the appropriate point in the text and the publication is listed on the inside back cover. Subsequent amendments to, or revisions of this publication apply to this Part of BS 4267 only when incorporated in it by updating or revision.

## 3 Principle

The test portion is extracted with diethyl ether, volatile fractions are removed from the extract and the resulting residue is weighed.

## 4 Reagent

**4.1** *Diethyl ether*, conforming to BS 579:1957 and dried before use.

## 5 Apparatus

**5.1** *Ordinary laboratory apparatus*

**5.2** *Glass evaporating basin*

**5.3** *Soxhlet extraction apparatus*, with a cellulose thimble of a size suitable for extraction of a 25 g sample.

**5.4** *Water bath*

**5.5** *Oven*, capable of being maintained at  $103\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ .

**5.6** *Desiccator*, containing an efficient desiccant.

## 6 Procedure

### 6.1 Preparation of the evaporating basin

Heat the evaporating basin (5.2) for 1 h in the oven (5.5) maintained at  $103\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ . Cool in the desiccator (5.6) and weigh to the nearest 0.001 g.

### 6.2 Test portion

Weigh, to the nearest 0.01 g, 25 g of the test sample and transfer to the extraction thimble (see 5.3).

If necessary, break up the sample by crushing rather than grinding.

### 6.3 Extraction of the sample

Assemble the Soxhlet apparatus (5.3) in a fume cupboard and extract the test portion (6.2) with the diethyl ether (4.1) for at least 1 h using the water bath (5.4) as the heat source. Remove the receiver and transfer the solution to the prepared evaporating basin (6.1). Evaporate the diethyl ether to dryness on the water bath (5.4). Transfer the basin to the oven (5.5) maintained at  $103\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$  and heat for 1 h. Cool in the desiccator (5.6) and weigh to the nearest 0.001 g. Repeat the operations of heating, cooling and weighing until the difference in mass between two successive weighings does not exceed 0.002 g.

## 7 Calculation and expression of results

The matter soluble in diethyl ether, expressed as a percentage by mass, is given by the expression:

$$M \times 4$$

where

$M$  is the mass of the oven dried residue (in g).

## 8 Test report

The test report shall include the following information:

- a complete identification of the sample;
- a reference to this British Standard i.e. BS 4267-10:1994;
- the results expressed in accordance with clause 7;
- any unusual features noted during the determination;
- any operation not included in this Part of BS 4267 or regarded as optional.



## List of references (see clause 2)

### Normative references

#### BSI publications

BRITISH STANDARDS INSTITUTION, London

BS 579:1957, *Specification for diethyl ether (technical)*.

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