International Standard 7407

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Fertilizers — Determination of acid-soluble potassium content — Preparation of the test solution

Engrais — Dosage du potassium soluble dans l'acide — Préparation de la solution d'essai

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Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 7407 was developed by Technical Committee ISO/TC 134, *Fertilizers and soil conditioners*, and was circulated to the member bodies in February 1982.

It has been approved by the member bodies of the following countries :

Australia	India	Portugal
Bulgaria	Israel	Romania
Canada	Italy	South Africa, Rep. of
China	Kenya	Sri Lanka
Czechoslovakia	Mexico	United Kingdom
Egypt, Arab Rep. of	Netherlands	USA
France	New Zealand	USSR
Germany, F. R.	Norway	
Hungary	Poland	

No member body expressed disapproval of the document.

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Fertilizers — Determination of acid-soluble potassium content — Preparation of the test solution

1 Scope and field of application

This International Standard specifies the reference method for the preparation of test solutions of fertilizers for the subsequent determination of their acid-soluble potassium contents.

2 Principle

Boiling of a test portion with dilute hydrochloric acid solution.

3 Reagent

Use only reagent of recognized analytical grade and only distilled water or water of equivalent purity.

3.1 Hydrochloric acid, solution containing approximately 36,5 g of HCl per litre.

Add 50,0 ml of hydrochloric acid (ϱ_{20} = 1,18 g/ml) to about 400 ml of water and cool. Dilute the solution with water to 500 ml and mix.

4 Apparatus

Ordinary laboratory apparatus, and

4.1 Flat-bottomed flask, of capacity 750 ml.

4.2 Reflux condenser.

4.3 One-mark volumetric flask, of capacity 1 000 ml, complying with the requirements of ISO 1042[1], class B (maximum permitted error : ± 0,80 ml).

5 Preparation of the test sample

Pretreatment of test samples of fertilizers for the determination of potassium content will form the subject of a future International Standard.

6 Procedure

6.1 Test portion

Weigh, to the nearest 0,001 g, 5 g of the prepared test sample (see clause 5).

6.2 Dissolution

Transfer the test portion (6.1) to the flask (4.1) with 300 ml of the hydrochloric acid solution (3.1) and fit the reflux condenser (4.2) to the flask.

Bring to the boil and continue boiling for 30 min.

Cool the contents of the flask and transfer to the one-mark volumetric flask (4.3). Dilute to the mark with the hydrochloric acid solution (3.1), mix well and filter into a dry beaker. Discard the first 50 ml of filtrate.

7 Test report

The test report for the subsequent determination of acid-soluble potassium content shall include the following information relevant to the preparation of the test solution :

a) all the information necessary for the complete identification of the sample;

b) a reference to this International Standard;

c) any operations not specified in this International Standard, or regarded as optional, as well as any incidents likely to affect the results of the determination of acid-soluble potassium content.

1) ISO 1042, *Laboratory glassware — One-mark volumetric flasks.*