

**Karbonaatsed lubiväetised. Reaktiivsuse määramine.
Potentsiomeetriline tiitrimine vesinikkloriidhappega**

Carbonate liming materials - Determination of reactivity -
Potentiometric titration method with hydrochloric acid

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NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 13971:2008 sisaldab Euroopa standardi EN 13971:2008 ingliskeelset teksti.

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Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 13.02.2008.

Standard on kättesaadav Eesti standardiorganisatsioonist.

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English Version

**Carbonate liming materials - Determination of reactivity -
Potentiometric titration method with hydrochloric acid**

Amendements minéraux basiques carbonatés -
Détermination de la réactivité - Méthode par titration
potentiométrique à l'acide chlorhydrique

Carbonatische Kalke - Bestimmung der Reaktivität -
Potentiometrisches Titrationsverfahren mit Salzsäure

This European Standard was approved by CEN on 28 December 2007.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This document (EN 13971:2008) has been prepared by Technical Committee CEN/TC 260 "Fertilizers and liming materials", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2008, and conflicting national standards shall be withdrawn at the latest by August 2008.

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Introduction

The results obtained by this method can be used to estimate the behaviour of the liming material in the soil. The results show a good correlation with the results obtained by a soil incubation method (see [1] to [5]). Regarding the precision of the method, the results are not used to declare a value, but to classify the different product groups.

1 Scope

This European Standard specifies a method for the determination of the speed and effectiveness of the neutralizing potential of calcium carbonate and calcium magnesium carbonate liming materials by potentiometric titration with hydrochloric acid.

This method is applicable only to liming materials with a maximum particle size of 6,3 mm.

NOTE The type of liming material should be identified according to EN 14069 and the particle size should be determined according to EN 12948.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1482-2, *Fertilizers and liming materials — Sampling and sample preparation — Part 2: Sample preparation*

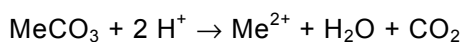
EN 12048, *Solid fertilizers and liming materials — Determination of moisture content — Gravimetric method by drying at (105 ± 2) °C (ISO 8190:1992 modified)*

EN 12945, *Liming materials — Determination of neutralizing value — Titrimetric methods*

EN 12948, *Liming materials — Determination of size distribution by dry and wet sieving*

3 Principle

Decomposition of carbonates with acids according to the following reaction:



Titration under stable pH conditions either with an automatic titration apparatus or a manual method. The acid consumption during a given time is a direct measure of the reaction rate of the liming materials being tested.

4 Apparatus

Usual laboratory apparatus and, in particular, the following:

4.1 pH meter, with electrode.

4.2 Burette

NOTE Used only for 5,0 mol/l hydrochloric acid solution (5.3).