



SLOVENSKI STANDARD
oSIST prEN 14069:2024
01-julij-2024

Sredstva za apnjenje - Opisi, specifikacije in označevanje

Liming materials - Denominations, specifications and labelling

Kalkdünger - Bezeichnung, Spezifizierung und Kennzeichnung

Amendements minéraux basiques - Dénominations, spécifications et étiquetage

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65.080 Gnojila / Fertilizers

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Liming materials - Denominations, specifications and labelling

Amendements minéraux basiques - Dénominations,
spécifications et étiquetage

Kalkdünger - Bezeichnung, Spezifizierung und
Kennzeichnung

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 260.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (prEN 14069:2024) has been prepared by Technical Committee CEN/TC 260 “Fertilizers and liming materials”, the secretariat of which is held by DIN.

This document is currently submitted to CEN Enquiry.

This document will supersede EN 14069:2017.

In comparison with the previous edition, the following changes have been made:

- a) Reference to the Fertilisers Product Regulation (Regulation (EU) 2019/1009) repealing Regulation (EC) 2003/2003;
- b) Revision of chalk definition in accordance with Regulation (EU) 2019/1009;
- c) Modification of Clause 8 on Declaration.

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Introduction

Throughout the member countries of CEN, regular liming to regulate the soil pH level and to neutralize the effect of soil acidification is a well-established and essential agricultural operation on all soils in humid climates and under all systems of agricultural cultivation. Liming improves soil fertility and supplies essential plant nutrients.

Liming materials are also used in forest liming, lake liming and the liming of water catchment areas.

A wide range of natural geological deposits of liming materials is found in all member countries of CEN. Some industrial processes produce materials acceptable as liming products. This very wide range of material differs substantially in both chemical and physical properties. The use of these various materials will vary according to the type of material.

Still, this standard specifies the main properties of the liming materials used in Europe.

However, for the purpose of comparison of these products, it is necessary to describe and specify the minimum requirements of a liming material.

Regulation (EU) 2019/1009 [1] repealing Regulation (EC) No 2003/2003 [2] allows to refer on labelling to this standard [3], which has been revised to fully comply with the new regulation. The specifications and categories of this standard can be considered as specific products complying at least to the minimal requirement of the Regulation (EU) 2019/1009 [1].

Liming materials in Europe show a large diversity due to factors as climate and type of crops, production, transport, storing and spreading of lime adapted to regional conditions. Standard quality covers these varying liming materials, whilst fine quality credits rapidly dissolving materials needed for certain specialized agricultural productions or to allow the dissolution of the liming material in some soil types having a higher pH value in a rapid and controlled way.

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1 Scope

This document describes and specifies the requirements of products of natural origin and products from industrial processes of basic and fine quality to be used as liming materials in agriculture for raising the pH of soil (and water).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 12048, *Solid fertilizers and liming materials — Determination of moisture content — Gravimetric method by drying at $(105 \pm 2)^\circ\text{C}$ (ISO 8190:1992, modified)*

EN 12944-1, *Fertilizers and liming materials — Vocabulary — Part 1: General terms*

EN 12944-3, *Fertilizers and liming materials — Vocabulary — Part 3: Terms relating to liming materials*

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

EN 12946, *Liming materials — Determination of the calcium content and magnesium content — Complexometric method*

EN 12947, *Liming materials — Determination of magnesium content — Atomic absorption spectrometric method*

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

EN 13475, *Liming materials — Determination of calcium content — Oxalate method*

EN 13971, *Carbonate and silicate liming materials — Determination of reactivity — Potentiometric titration method with hydrochloric acid*

EN 14397-2, *Fertilizers and liming materials — Determination of carbon dioxide — Part 2: Method for liming materials*

EN 14984, *Liming materials — Determination of product effect on soil pH — Soil incubation method*

EN 15704, *Liming materials — Determination of the breakdown of granulated calcium and calcium/magnesium carbonates under the influence of water*

EN 16357, *Carbonate liming materials — Determination of reactivity — Automatic titration method with citric acid*

ISO 6598, *Fertilizers — Determination of phosphorus content — Quinoline phosphomolybdate gravimetric method*

ISO 7497, *Fertilizers — Extraction of phosphates soluble in mineral acids*

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3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12944-1 and EN 12944-3 apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp/>
- IEC Electropedia: available at <https://www.electropedia.org/>

4 Denominations and specifications for liming materials

The denominations (type designations), specifications and elements to be declared are specified in Table 1 to Table 6 as follows:

- Table 1: Natural limes;
- Table 2: Oxide and hydroxide limes of natural origin;
- Table 3: Limes from industrial processes;
- Table 4: Silicate limes;
- Table 5: Mixed limes;
- Table 6: Mixtures of liming materials with other fertilizing products.

Limits in contaminants can be set according to relevant national or European regulation.

Granulated liming materials which are produced by aggregating smaller primary particles shall break down when stirred in water into particles with fineness distributions as specified in the type descriptions, and as measured using the method specified in EN 15704.

All the properties mentioned in the Table 1 to Table 6 refer to the product as supplied unless otherwise specified.

All the neutralizing requirements are expressed as CaO-equivalent and as HO⁻-equivalent in brackets.

For mixed limes other than specified in Table 5, users of these products should check the compliance of these products with the national regulations for agricultural liming materials.

For products obtained by mixing, the type designation shall be completed by the list of the components with the maximum of three types.

In case of mixtures of raw materials containing dolomite for common grinding, the final mixed product shall be finer than 97 % at 1,5 mm.

Table 1 — Natural limes

Type designation	Data on method of production and essential ingredients	Minimum content of nutrients as supplied (percentage by mass) Data on the expression of nutrients Other requirements	Other data on the type designation	Nutrient content to be declared as supplied Forms and solubility of the nutrients in dry matter Other criteria to be declared Methods of determination
Limestone – standard quality	Product or mixture of products of Table 1 containing as its essential ingredient calcium carbonate, obtained by grinding of natural deposits of limestone	Minimum Neutralizing Value: 42 as CaO (25,5 as HO·) Fineness determined by sieving: — at least 97 % to pass through a 3,15 mm sieve and — at least 70 % to pass through a 1 mm sieve and — at least 50 % to pass through a 0,5 mm sieve.	Usual trade names or alternative names may be added.	Neutralizing Value (EN 12945) Total calcium (EN 12946 or EN 13475 and EN 14397-2) Total magnesium (EN 12946 or EN 12947)
Limestone – fine quality		Minimum Neutralizing Value: 50 as CaO (30,3 as HO·) Fineness determined by sieving: — at least 97 % to pass through a 2 mm sieve and — at least 80 % to pass through a 1 mm sieve and — at least 50 % to pass through a 0,315 mm sieve and — at least 30 % to pass through a 0,1 mm sieve.	Usual trade names or alternative names may be added.	Wet product (if moisture content > 2 % (EN 12048)) Fineness determined by sieving (EN 12948) Reactivity and method of determination (EN 13971, EN 16357, EN 14984)

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Type designation	Data on method of production and essential ingredients	Minimum content of nutrients as supplied (percentage by mass) Data on the expression of nutrients Other requirements	Other data on the type designation	Nutrient content to be declared as supplied Forms and solubility of the nutrients in dry matter Other criteria to be declared Methods of determination
Magnesian limestone – standard quality	Product or mixture of products of Table 1 containing as its essential ingredients calcium carbonate and magnesium carbonate, obtained by grinding of natural deposits of magnesian limestone	Minimum Neutralizing Value: 45 as CaO (27,3 as HO·) Total magnesium: ≥ 3 % MgO to < 12 % MgO Fineness determined by sieving: — at least 97 % to pass through a 3,15 mm sieve and — at least 70 % to pass through a 1 mm sieve and — at least 50 % to pass through a 0,5 mm sieve.	Usual trade names or alternative names may be added.	Neutralizing Value (EN 12945) Total calcium (EN 12946 or EN 13475 and EN 14397-2) Total magnesium (EN 12946 or EN 12947)
Magnesian limestone – fine quality		Minimum Neutralizing Value: 52 as CaO (31,5 as HO·) Total magnesium: ≥ 3 % MgO to < 12 % MgO Fineness determined by sieving: — at least 97 % to pass through a 2 mm sieve and — at least 80 % to pass through a 1 mm sieve and — at least 50 % to pass through a 0,315 mm sieve and — at least 30 % to pass through a 0,1 mm sieve.		

Type designation	Data on method of production and essential ingredients	Minimum content of nutrients as supplied (percentage by mass) Data on the expression of nutrients Other requirements	Other data on the type designation	Nutrient content to be declared as supplied Forms and solubility of the nutrients in dry matter Other criteria to be declared Methods of determination
Dolomitic limestone – standard quality	Product or mixture of products of Table 1 containing as its essential ingredients calcium carbonate and magnesium carbonate, obtained by grinding of natural deposits of dolomite	Minimum Neutralizing Value: 48 as CaO (29,1 as HO ⁻) Total magnesium: ≥ 12 % MgO Fineness determined by sieving: — at least 97 % to pass through a 3,15 mm sieve and — at least 70 % to pass through a 1 mm sieve and — at least 50 % to pass through a 0,5 mm sieve.	Usual trade names or alternative names may be added.	Neutralizing Value (EN 12945) Total calcium (EN 12946 or EN 13475 and EN 14397-2) Total magnesium (EN 12946 or EN 12947) Wet product (if moisture content > 2 % (EN 12048)) Fineness determined by sieving (EN 12948) Reactivity and method of determination (EN 13971, EN 16357, EN 14984)
Dolomitic limestone – fine quality		Minimum Neutralizing Value: 54 as CaO (32,8 as HO ⁻) Total magnesium: ≥ 12 % MgO Fineness determined by sieving: — at least 97 % to pass through a 2 mm sieve and — at least 80 % to pass through a 1 mm sieve and — at least 50 % to pass through a 0,315 mm sieve and — at least 30 % to pass through a 0,1 mm sieve.	Usual trade names or alternative names may be added.	