INTERNATIONAL STANDARD

ISO 18642

First edition
2016-07-15

Fertilizer and soil conditioners — Fertilizer grade urea — General requirements

Matières fertilisantes — Engrais à l'urée — Exigences générales

Reference number
ISO 18642:2016(E)

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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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Foreword

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The committee responsible for this document is ISO/TC 134, *Fertilizers and soil conditioners.*

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Introduction

Urea, also known as carbamide, is the world's most widely used nitrogen fertilizer product. The production of urea globally has reached 198 million tons and the volume of global trade has reached 45 million tons in the year 2013. About 85 % of the world's production of urea is destined for use as a nitrogen-release fertilizer. Urea has the highest nitrogen content of all solid nitrogenous fertilizers in common use. The standard crop-nutrient rating of urea is 46-0-0.

For facilitating international fertilizer trade, it is necessary to have an international and general standard for fertilizer grade urea.

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Fertilizer and soil conditioners — Fertilizer grade urea — General requirements

1 Scope

This International Standard specifies the general requirements regarding testing methods, sampling and preparation of test sample, marking and labelling, package, transport, and storage of fertilizer grade urea.

This International Standard is applicable to urea in solid form, e.g. granular, prilled, or pastilled, which is made by the reaction of ammonia with carbon dioxide. Urea can be classified by its intended use, industrial and/or agricultural. It is mainly used as fertilizer in the field of agriculture. This International Standard is only applicable to fertilizer grade urea in the field of agriculture.

2 Normative references

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

ISO 5315, *Fertilizers — Determination of total nitrogen content — Titrimetric method after distillation*

ISO 7410, *Fertilizers and soil conditioners — Final samples — Practical arrangements*

ISO 7742:1988, *Solid fertilizers — Reduction of samples*

ISO 8397, *Solid fertilizers and soil conditioners — Test sieving*

ISO 8633, *Solid fertilizers — Simple sampling method for small lots*

ISO 18643, *Fertilizers and soil conditioners — Determination of biuret content of urea-based fertilizers — HPLC method*

EN 13466-1:2001, *Fertilizers — Determination of water content — (Karl Fischer methods) — Part 1: Methanol as extracting medium*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
urea
white crystalline, or granular, or prill, or pastill, solid synthesized from ammonia and carbon dioxide under high temperature and pressure by a number of processes

Note 1 to entry: The molecular formula is $CO(NH_2)_2$. The molecular weight is 60,053 according to IUPAC's 2011 report on standard atomic weights.

[SOURCE: ISO 8157:2015, 2.2.1.9, modified — In the definition, "or prill, or pastill," has been added. Note 1 to entry has been added.]

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