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## DRAFT EAST AFRICAN STANDARD

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Fertilizers — Urea — Specification

EAST AFRICAN COMMUNITY

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## Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the Principles and procedures for development of East African Standards.

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

The committee responsible for this document is Technical Committee EASC/TC 020, *Agriculture and agrochemicals*.



## Fertilizers — Urea — Specification

### 1 Scope

This Draft East African Standard specifies the requirements, sampling and test methods for urea fertilizer. This standard does not cover specifications for coated urea.

### 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.

AOAC 960.04, *Biuret in fertilizers — Spectrophotometric method*

AOAC 965.08, *Water (free) in fertilizers — Vacuum-desiccation*

AOAC 2006.03, *Arsenic, Cadmium, Cobalt, Chromium, Lead, Molybdenum, Nickel and Selenium in fertilizers*

ISO 5315, *Fertilizers — Determination of Total Nitrogen Content — Titrimetric method after distillation*

ISO 8157, *Fertilizers, soil conditioners and beneficial substances — Vocabulary*

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

ISO 17318, *Fertilizers and soil conditioners — Determination of arsenic, cadmium, chromium, lead and mercury contents*

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

ISO 14820-1, *Fertilizers and liming materials - Sampling and sample preparation - Part 1: Sampling*

ISO 14820-2, *Fertilizers and liming materials - Sampling and sample preparation - Part 2: Sample preparation*

ISO 7409, *Fertilizers - Marking - Presentation and declarations*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8157 apply.

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

— ISO Online browsing platform: available at <http://www.iso.org/obp>

## 4 Requirements

### 4.1 General requirements

4.1.1 Urea fertilizer shall be in the form of a free-flowing granules or prills, free from foreign matter and impurities. The colour of the fertilizer shall be uniform.

4.1.2 When tested using ISO 8397, not less than 90 % by weight of the material shall be of particles in the size range of 1 mm to 4 mm for prills and 2 mm to 4 mm for granules.

### 4.2 Specific requirements

Urea fertilizer shall comply with the specific requirements specified in Table 1 when tested in accordance with the test methods prescribed therein.

**Table 1 — Specific requirements for urea fertilizer**

S/N	Characteristic	Requirement	Test method
i.	Total nitrogen, % by mass, min.	46	ISO 5315
ii.	Biuret, % by mass, max.	1.5	ISO 18643 AOAC 960.04
iii.	Moisture, % by mass, max.	1.0	AOAC 965.08

## 5 Contaminants

Heavy metal contaminants in urea fertilizer shall conform to the limits given in Table 2 when tested in accordance with the test methods prescribed therein.

**Table 2 — Requirements for heavy metal contaminants in urea fertilizer**

S/N	Heavy metal	Requirement mg/kg, max.	Test method
i.	Arsenic (As)	20	ISO 17318
ii.	Cadmium (Cd)	7	
iii.	Mercury (Hg)	0.1	
iv.	Lead (Pb)	30	
v.	Chromium (Cr)	500	
vi.	Selenium (Se)	1.0	AOAC 2006.03

## 7 Packaging

Urea fertilizer shall be packaged in materials that are clean and non-defective that protect the product from physical, chemical and moisture contamination and withstand multiple stages of handling (transportation and storage).

## 8 Labelling

Each package shall be legibly and indelibly labeled in accordance with ISO 7409 in English and/or any other official language in the destination country with the following information:

- a) name of the fertilizer; "Urea Fertilizer"
- b) brand name if any;
- c) name and address of the manufacturer /importer;
- d) nutrient content;
- e) net content by mass in metric units;
- f) handling instructions – including the words "Use No hooks";
- g) production date
- h) expiry date;
- i) country of origin;
- j) batch number; and
- k) storage conditions.

## 9 Sampling

Sampling and sample preparation of urea fertilizers shall be carried out as prescribed in ISO 14820-1 and ISO 14820-2 respectively.





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