

## **DRAFT EAST AFRICAN STANDARD**

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**Fertilizer – Single Super Phosphate — 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.

In order to achieve this objective, the Community established an East African Standards Committee mandated to develop and issue East African Standards.

The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the private sectors and consumer organizations. 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 procedures of the Community.

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*.

## Fertilizer – Single Super Phosphate — Specification

### 1 Scope

This draft East African Standard prescribes the requirements, methods of sampling and test of Single Super Phosphate fertilizer in powder and granular forms.

### 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.

ISO 8157, *Fertilizer – Terminology*

DEAS 1166:2023, *Fertilizer – Code of practice for handling storage and disposal of bagged fertilizer or fertilizer supplements*

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

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

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

ISO 15959, *Fertilizers — Determination of extracted phosphorus*

ISO 5316, *Fertilizers – Extraction of water-soluble phosphate*

ISO 6598, *Fertilizers- Determination of phosphorous content- Quinolinephosphomolybdate- Gravimetric method*

AOAC 980.02-1985, *Sulfur in fertilizers. Gravimetric method*

AOAC2006.03, *Arsenic, Cadmium, Cobalt, Chromium, Lead, Molybdenum, Nickel, and selenium in fertilizers — Microwave digestion and inductively coupled plasma-optical emission spectrometry*

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

ISO 148-2, *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 purpose of this East African standard, terms and definitions given in ISO 8157 shall apply

## 4 Requirements

### 4.1 General requirements

#### 4.1.1 Physical requirements

The fertilizer material shall be free from foreign matter and shall not form hard cake on storage. The colour of Single Super Phosphate fertilizer shall be uniform.

#### 4.1.2 Particle size

Single Super phosphate fertilizer in granular form not less than 90% of the material shall pass through 5 mm IS sieve and shall be retained on 1 mm IS sieve. Not more than 5% shall be below 1 mm. Tests shall be done according to ISO 8397.

### 4.2 Specific requirements

4.2.1 Single Super Phosphate fertilizer shall comply with the requirements prescribed in Table 1.

**Table 1 – Requirements for Single Super Phosphate fertilizer**

Characteristics	Single Super Phosphate (Powdered)-fertilizer	Single Super Phosphate (granulated)-fertilizer	Test method
Available phosphate (as P <sub>2</sub> O <sub>5</sub> ) % by mass, minimum	16.5	16.5	ISO 6598
Water soluble phosphate (as P <sub>2</sub> O <sub>5</sub> ) % by mass, minimum	14.0	14.0	ISO 5316
Free phosphoric acid (as P <sub>2</sub> O <sub>5</sub> ) % by mass, maximum	4.0	4.0	ISO 15959
Sulphur content (as S) % by mass, minimum	11.0	11.0	AOAC 980.02
Moisture content, % by mass, maximum	11	5	AOAC 965.08

## 5 Contaminants

Heavy metal contamination in Single Super Phosphate fertilizer shall not exceed the limits given in table 2 when determined by the methods prescribed therein.

**Table 2 – Requirements for heavy metal contaminants**

<b>Element</b>	<b>Requirement</b>	<b>Test Method</b>
Arsenic, <i>mg/kg, max</i>	40	ISO 17318
Cadmium, <i>mg/kg, max</i>	45	ISO 17318
Mercury, <i>mg/kg, max</i>	0.1	ISO 17318
Selenium, <i>mg/kg, max</i>	1	AOAC 2006.03
Lead, <i>mg/kg, max</i>	30	ISO 17318
Chromium, <i>mg/kg, max</i>	500	ISO 17318
Nickel, <i>mg/kg, max</i>	120	AOAC 2006.03

## 6 Sampling

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

## 7 Packaging

The 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

The fertilizer package shall be legibly and indelibly marked in accordance with ISO 7409 in either English or any other official language.

## 9 Storage

Single Super Phosphate fertilizers shall be stored, handled and transported as prescribed in DEAS 1166:2023

## Bibliography

- India control order 1985 as amended on 2003.
- TZS 1168, Fertilizer – Single Super Phosphate – Specification

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