

KENYA STANDARD

KS 2380: 2018

**Chelated Micro nutrient fertilizers-
Specification**

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SECOND EDITION

TECHNICAL COMMITTEE REPRESENTATION

The following organizations were represented on the Technical Committee:

Government Chemist
Mea Ltd.
Chemagro Ltd
Kenya Plant Health Inspectorate Services (KEPHIS)
Kenya Agricultural and livestock research organization
Yara East Africa Ltd
Kenya Tea Development Agency
University of Nairobi
Ministry of Agriculture, Livestock and fisheries
Amiran (K) Ltd
Toyota Tshusho Fertilizers
Elgon chemicals
Osho chemicals
OCP Kenya Ltd.
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Kenya Bureau of Standards — Secretariat

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Foreword

This Kenya standard has been prepared by the Technical Committee on Fertilizers and soil conditioners under the guidance of standards project committee and it is in accordance with the procedures of the Kenya bureau of standards.

During the preparation of this standard special attention was paid to the environmental aspects associated with fertilizer raw materials. Thus limits for heavy metal contamination for arsenic (As), cadmium (Cd), mercury (Hg), selenium (Se), lead (Pb) and chromium (Cr) have been specified.

Recent Association of Official Analytical Chemists (AOAC) methods of analysis have been adopted and the particle size requirements for all granulated fertilizers have been harmonized.

In drafting this standard reference was made to the following documents

1. FAO/AGL: Mineral Fertilizer Specifications 2012

Acknowledgement is hereby made for assistance derived from the above documents

Chelated Micro nutrient fertilizers-Specification

1.0 Scope

This Kenya Standard specifies the requirements, and prescribes methods of sampling and tests for Chelated micro nutrient fertilizers.

2.0. Definitions and terms

The terms and abbreviations used in this standard are in accordance with the explanations contained in this document: ISO 8157:2015; fertilizers and soil conditioners: vocabulary

3.1 Description

The fertilizer shall be either a solid, a homogenous liquid, or a suspension concentrate

3.2. Requirements

i) The fertilizer shall be chelated with the appropriate chelating agent for fast absorption of all individual micro elements in to the plants.

ii) The fertilizer shall be virtually free from Chloride, Sodium and other harmful elements for plants.

iii) The chelating agent used shall not be harmful to plant

3.3 Physical

a) The fertilizer shall be free from foreign matter

b) It shall be free from hard lumps

C) free from harmful substances

3.4. Chemical.

Each Chelated Micronutrient Fertilizer shall have a guarantee of the element(s) contained.

3.4 Heavy metal contaminants

The heavy metal contaminants, if present, shall not exceed the limits stipulated in Table 2.

Table 2 — Heavy metal contaminants limits

SL NO	Parameter	Limits in ppm	Test method
i)	Arsenic, As, max.	20.0	AOAC
ii)	Cadmium, Cd, max.	7.0	AOAC
iii)	Mercury, Hg, max.	0.1	AOAC
iv)	Selenium, Se, max.	1.0	AOAC
v)	Lead, Pb, max.	30.0	AOAC
Vi)	Chromium, Cr, max	500	AOAC

4 Packaging and marking /labelling

4.1 Packaging

4.1.1 The fertilizer shall be packaged in materials that ensures the product integrity and quality and protect it against physical damage, chemical and moisture contamination.

4.1.2. The fill of the package shall comply with the weight and measures act CAP 513 of the laws of Kenya

4.1.3 The disposal of used package and condemned fertilizer shall comply with EMCA 1999 no.8 of the disposal of solids and liquid wastes

4.2. Marking/ labelling

The following information shall be clearly and indelibly marked on each package or container.

- i. Name, address and physical location of manufacturer/packer/importer;
- ii. name of the fertilizer
- iii. date of manufacture,
- iv. expiry date
- v) batch/lot number
- vi) net weight of the fertilizer in the package; in metric units
- vi) Chelating agent(s)
- vii)) Active ingredients content
- viii Storage and Handling instructions
- ix) instructions for use where applicable.
- x) disposal instructions
- xi)) Country of origin;

4 Certificate of analysis

Each consignment shall be accompanied by a certificate of analysis.

5.

Sampling

This shall be done as per the relevant ISO Standards ISO 8633 and ISO 8634

PUBLIC REVIEW DRAFT