

**KENYA STANDARD**

**KS 2424: 2018**

**Monoammonium phosphate (MAP) and  
diammonium phosphate (DAP) fertilizer,  
technical grade — Specification**

PUBLIC REVIEW DRAFT

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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.  
Kel Chemicals  
Kenya Bureau of Standards — Secretariat

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## REVISION OF KENYA STANDARDS

In order to keep abreast of progress in industry, Kenya Standards shall be regularly reviewed. Suggestions for improvements to published standards, addressed to the Managing Director, Kenya Bureau of Standards, are welcome.

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## Foreword

This Kenya standard has been prepared by the technical committee on fertilizers and soil conditioners under the guidance of the standards projects committee in accordance with the procedures of the Kenya Bureau of standards.

The rapid expansion of horticulture and Irrigated farming has resulted in development of new technologies that aim at maximising nutrient use efficiency and offer opportunities for quick responses to plants nutrients needs. This has resulted to a need to develop special fertilizers that can be applied using these new technologies.

Like other fertilizer products, environmental aspects related to fertilizer raw materials have been taken care of. Thus limits for heavy metals have been specified. Recent Association of official Analytical chemists (AOAC) methods of analysis have been adopted.

During the preparation of this standard, reference was made to the following document:

1. 2012, FAO Mineral fertilizer recommendations.
2. EU Cadmium limits ,2018

Acknowledgement is hereby made for assistance derived from the above source



## Monoammonium phosphate (MAP) and diammonium phosphate (DAP) fertilizer, technical grade —Specification

### 1 Scope

This Kenya Standard specifies the requirements and prescribes the methods of test for Monoammonium phosphate (MAP) and diammonium phosphate (DAP), technical grades of fertilizers.

### 2 Requirements

#### 2.1 Description

The fertilizer shall be free flowing, in form of granules, crystal, or prills, free from any foreign matter and shall not cake on storage

#### 2.2 Physical

The fertilizer product shall be fully water soluble.

#### 2.3 Chemical

The fertilizers shall comply with the compositional limits specified in Table 1.

**Table 1 — Compositional limits**

SL NO	Characteristic	Requirement/limits		Test method
		MAP	DAP	
i)	Total nitrogen, % (m/m), min.	11.5.	20.5	AOAC
iii)	Available phosphates, as P <sub>2</sub> O <sub>5</sub> , % (m/m), min.	60	52.5	AOAC
iv)	Moisture, % (m/m), max.	0.5	0.5	AOAC
v)	Insoluble matter,%(m/m), Max	0.5	0.5	AOAC
vi)	pH(1% solution),,min	4	7	AOAC

## 2.4 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.	15.0	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.	500.0	AOAC

## 3 Packaging and labelling

### 3.1 Packaging

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

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

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

### 3.2 Marking/Labelling

Marking/labelling of fertilizer package shall include the following information:

- name and physical address of manufacturer/packer/importer;
- name of the fertilizer, namely MAP or DAP fertilizer; 'technical grade'



- c) guaranteed percentages of nutrient element nitrogen(N) and available phosphates ( $P_2O_5$ )
- d) date of manufacture
- e) expiry date;
- f) The form in which the nutrient is present.
- g) the net weight of the fertilizer in the package;
- h) lot number or batch number;;
- i) handling instructions;
- j) Country of origin.

#### **4 Certificate of analysis**

A certificate of analysis shall accompany each consignment.

#### **5 Sampling**

This shall be carried out as outlined in ISO standards 8633 and 8634.

ISO 8633-Solid fertilizers -- Simple sampling method for small lots

ISO 8634- Solid fertilizers -- Sampling plan for the evaluation of a large delivery