

**KENYA STANDARD**

**KS 157: 2010**

**Monoammonium phosphate (MAP) and  
diammonium phosphate (DAP) fertilizers  
— Specification**

PUBLIC REVIEW DRAFT

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Fourth Edition

## KS 157: 2010

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Institute of Packaging (K))  
Government Chemist  
Mea Ltd.  
Chemagro Ltd  
Kenya Plant Health Inspectorate Services (KEPHIS)  
Ministry of Agriculture  
Tea Research Foundation of Kenya  
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Oshochemicals Ltd  
Kenya Bureau of Standards — Secretariat

### 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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diammonium phosphate (DAP) fertilizers —  
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# KS 157: 2010

## Foreword

This Fourth Edition of KS 157 was prepared by the Technical Committee on Fertilizers and Soil conditioners under the guidance of the Standards Projects Committee, and it is in accordance with the procedures of the Kenya Bureau of Standards.

The standard was first issued in 1980 and third edition published in 2007.

During the revision of this standard, attention was given to the nutrient content of the fertilizer and a minimum for nitrogen and available phosphates are specified. The environmental aspects associated with fertilizer raw-materials were reviewed, thus setting limits for the heavy metals Arsenic (As) Cadmium (Cd), Mercury (Hg), Selenium (Se), Lead (Pb) and Chromium (Cr).

Recent Association of official Analytical chemists (AOAC) methods of analysis have been adopted and the particle size requirement was also harmonized with those of other granulated fertilizers.

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

*MS 1329: Specification for diammonium phosphate.*

*FAO Mineral fertilizer Specifications 2010*

*Association of Analytical Chemists (AOAC) — Methods of analysis for fertilizers.*

Acknowledgement is hereby made for assistance derived from these sources.

## Monoammonium phosphate (MAP) and diammonium phosphate (DAP) fertilizers — Specification

### 1 Scope

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

### 2 Requirements

#### 2.1 Description

The fertilizer shall be free flowing, granular and free from any foreign matter.

#### 2.2 Physical

Particle size: Not less than 90% of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve. Not more than 5% shall be below 1 mm size

#### 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	18	ISO 5315
ii)	Water soluble phosphates as P <sub>2</sub> O <sub>5</sub> , % (m/m), min.	44	41	ISO 5316
iii)	Available phosphates, as P <sub>2</sub> O <sub>5</sub> , % (m/m), min.	50	46	ISO 6598
iv)	Moisture, % (m/m), max.	1.5	1.5	ISO8189

#### 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(986-15)
ii)	Cadmium, Cd, max.	30.0	AOAC(986-15)
iii)	Mercury, Hg, max.	0.1	AOAC(986-15)
iv)	Selenium, Se, max.	1.0	AOAC(986-15)
v)	Lead, Pb, max.	30.0	AOAC(986-15)
vi)	Chromium, Cr. Max.	500.0	AOAC(986-15)

### 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/Labeling

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

- a) name and physical address of manufacturer/packer/importer;
- b) name of the fertilizer, namely MAP or DAP fertilizer;
- c) guaranteed percentages of nutrient element nitrogen and available phosphates, i.e  $N - P_2O_5 - K_2O$ ;
- d) date of manufacture
- e) expiry date;
- f) the net weight of the fertilizer in the package;
- g) lot number or batch number;;
- h) handling instructions;
- i) Country of origin.

**4 Certificate of analysis**

A certificate of analysis shall accompany each consignment.

**5 Sampling**

The sampling of the fertilizers shall be carried in accordance with the standard KS 7410-  
*Fertilizers and soil conditioners-sampling*

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