

**Magnesium Nitrate fertilizer, technical  
grade— Specification**

PUBLIC REVIEW DRAFT

## 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  
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Elgon chemicals  
Osho chemicals  
OCP Kenya Ltd.  
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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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**KENYA STANDARD**

**KS 2423:2018**

**Magnesium Nitrate fertilizer, technical grade  
— Specification**

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Foreword

## **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 led 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 documents:

1. FAO mineral fertilizer specifications, 2012

Acknowledgement is hereby made for assistance derived from the above source.

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# KENYA STANDARD

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## Magnesium Nitrate fertilizer, technical grade — Specification

### 1.0 Scope

This Kenya Standard specifies the requirements, methods of sampling and tests for magnesium Nitrate fertilizer, technical grade.

### 2.0. Definitions and terms

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

### 3.0 Requirements

#### 3.1 Description

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

#### 3.2 Physical

The fertilizer shall be fully water soluble.

#### 3.3 Chemical

The material shall comply with the requirements set out in table 1. Check certificates of Analysis

**Table 1 compositional limits**

SL.NO	Characteristic	requirement	Test method
	Water soluble magnesium content(as Mg)% by weight ,min	9.4	AOAC
ii)	Total nitrogen content as N (% by weight)min	10.5	AOAC
iii	Nitrate Nitrogen		
iii)	Moisture content,% by weight(max)	1.5	AOAC
iv	pH(1% solution)	4-6	AOAC

## 2.6 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

## 3 Packaging and marking /labelling

### 3.1 Packaging

3.1.1 The fertilizer shall be packaged in materials that ensure the product integrity and quality and protect 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 2015 Act of the disposal of solids and liquid wastes

### 3.2 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, i.e. "Magnesium nitrate "
- iii. Guaranteed percentage by mass of the water soluble magnesium and Nitrogen content

- iv. date of manufacture,
- v. expiry date
- vi. batch/lot number
- Vii the net weight of the fertilizer in the package; in metric units
- Viii Storage and Handling instructions
- ix Instructions for use
- x disposal instructions
- xi. Country of origin;

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

Each consignment shall be accompanied by a certificate of analysis.

##### **Sampling**

#### **4 This shall be carried as outlined in the ISO standards listed below**

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

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