

KENYA STANDARD

**Calcium phosphates Feed Grade —
Specification**

PUBLIC REVIEW DRAFT

TECHNICAL COMMITTEE REPRESENTATION

The following organizations were represented on the Technical Committee;

1. Ministry of Agriculture Livestock Fisheries — State Department of Livestock
2. University of Nairobi — Department of Animal Production
3. Kenya Agricultural Research Institute (KARI)
4. Unga Farm Care EA Ltd.
5. Modern Ways Ltd.
6. Consumer Information Network
7. Department of Veterinary Services
8. AKEFEMA-Association of Kenya Feed Manufacturers
9. Government chemist department.
10. Pioneer Feeds Ltd
11. Nutrimix (K) Ltd
12. Pembe Flour Mills
13. Eaglevet (K) Ltd
14. Joeliz Bone meal Ltd.
15. Proctor and Allan (EA) Ltd
16. 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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Foreword

This Kenya standard was prepared by the Animal Feeds Technical committee under the guidance of standard projects committee and it is in accordance with the procedures of the Kenya Bureau of standards.

Calcium phosphates are important mineral ingredients used for animal feeding. However it is necessary that the levels of undesirable elements be kept as low as possible to prevent it from being toxic to animals. Feed grade Calcium phosphates are now being manufactured and imported into the country. It is expected that this standard which takes into consideration the present manufacturing practices would help in exercising proper quality control during production.

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

IS 5470: Specification for Dicalcium phosphate Animal feed grade.

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Calcium phosphates Feed grade — Specification

1. Scope

This Kenya Standard specifies the requirements for calcium phosphates feed grade for use in animal feeding.

2. Application

It shall apply to all calcium phosphates fed directly to the animal or used for manufacturing mineral mixtures and feeds.

3. Definitions

For purposes of this standard, the following definitions shall apply:

3.1 **Mono Calcium Phosphate (MCP)**-is an inorganic compound with chemical formulae: $\text{Ca}(\text{H}_2\text{PO}_4)_2$

3.2 **Mono Di-Calcium Phosphate (MDCP)**-is an intermediate between the two and obtained by reacting pure mineral sources of calcium with purified phosphoric acid or di-calcium phosphate with purified phosphoric acid with chemical formulae: $\text{Ca}(\text{H}_2\text{PO}_4)_2 \cdot \text{H}_2\text{O} + \text{CaHPO}_4 \cdot 2\text{H}_2\text{O}$

3.3 **Di-Calcium Phosphate (DCP)** is a type of calcium phosphate which is di-basic. It is usually found as dihydrate, with the chemical formula but can be thermally converted into anhydrous form

4. Requirements

4.1 Description.

The material shall consist of naturally occurring or synthetic Calcium Phosphate. It shall be in the form of free flowing powder or granules. It shall be free from visible foreign matter and toxic substances such as arsenic.

The powder form shall be of such fineness that not less than 98.5 per cent by weight of the material shall pass through 45 Micron sieve.

4.2 Specific requirements

The Material shall conform to the following limits specified in table 1 below

Table 1. Requirements for calcium phosphates animal feed grade.

SL.NO	Parameter(Percentage by weight)	Limits			Test method
		DCP	MCP	MDCP	
i)	Moisture percent by weight, (Max)	5	5	5	AOAC
ii)	Calcium (as Ca) percent by weight, (Min)	23	15	19	AOAC
iii)	Phosphorus (as P) percent by weight, (Min)	18	23	21	AOAC
iv)	Flouride (as F) percent by weight, (Max)	0.1	0.1	0.1	AOAC
v)	Acid insoluble ash percent by weight, Max	1.0	1.0	1.0	AOAC
vi)	Ph (Max)	4	3.5	4.5	

4.3 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/AAS/ICP
ii)	Cadmium, Cd, max.	30.0	AOAC/AAS/ICP
iii)	Mercury, Hg, max.	1.0	AOAC/AAS/ICP
v)	Lead, Pb, max.	30.0	AOAC/AAS/ICP
vi)	Chromium	500	AOAC/AAS/ICP

5. PACKAGING AND LABELLING

5.1 Packaging

5.1.1 Calcium phosphates feed grade for sale shall be packed in containers which are of sufficient strength and sufficiently sealed so as to withstand reasonable handling without tearing, bursting or falling open during normal handling and transportation.

5.1.2 Each container for Calcium phosphates feed grade shall be clean and free from visible indications of contamination and infestations

5.2 Labelling

Labelling — The packages shall be securely closed and marked with the following information:

- (i) Name of product;
- (ii) Category and animals for which it is intended;
- (iii) Mineral contents, as per cent or ppm, in the product;
- (iv) Weight of the product;
- (v) Batch number;
- (vi) Name and physical address of the manufacturer;
- (vii) date of manufacture and expiry
- (Vii). Instructions for use and storage
- (viii) Feeding rate must be displayed in g/head/day.
- (ix) Labels of calcium phosphates shall not indicate that they can be considered as the sole source of mineral supplementation for target animal

6. SAMPLING

For the purpose of determining compliance with this standard, samples of calcium phosphates shall be collected from the market or elsewhere and shall be required to comply with all the requirements of this Kenya Standard.