
Draft Tanzania Standard

Fertilizer - Ammonium Sulphate – Specification

DRAFT FOR STAKEHOLDERS' COMMENTS ONLY

TANZANIA BUREAU OF STANDARDS

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(Draft for comments only)

0 FOREWORD

Ammonium Sulphate or Sulphate of Ammonia (SA) fertilizer is one of the important sources of nitrogen and sulphur.

This Tanzania Standard is intended to guide manufactures, importers, traders, regulatory authorities, farmers and other users of ammonium sulphate fertilizer to produce and select the product of desirable quality.

In the preparation of this Tanzania Standard assistance was drawn from manufacturers' specifications

In reporting the results of a test or analysis made in accordance with this standard, if the final value observed or calculated, is to be rounded off, it shall be done in accordance with TZS 4

2 SCOPE

This Tanzania standard prescribes the requirements, methods of sampling and test for ammonium sulphate fertilizer.

3 REFERENCES

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

TZS 4 Rounding off numerical values

TZS 156 Fertilizers and Soil Conditioners – Vocabulary

TZS 159 Fertilizers – Methods of sampling

TZS 780 Code of Practice for Handling of Fertilizers

TZS 782 Fertilizer - Methods for determination of heavy metal contaminants

TZS 990 Solid fertilizers – Determination of moisture content

TZS 1014 Solid fertilizers and soil conditioners – Test sieving

TZS 1016 Fertilizers – Determination of ammoniacal nitrogen content – Titrimetric method after distillation

TZS 1107 Solid fertilizers – Determination of mineral Acid-soluble Sulphate – Gravimetric Method

TZS 1283 Fertilizers – Methods for determination of free acidity

3 TERMS AND DEFINITIONS

For the purpose of this standard, terms and definitions given in TZS 156 shall apply.

4.0 REQUIREMENTS

4.1 Physical

Fertilizer shall be in the form of a free-flowing granules or crystals, free from foreign matter and impurities. The colour of the fertilizer shall be uniform. When tested by TZS 1014, not less than 90 percent by weight of the material shall be of particles in the size range of 1 mm to 4 mm for crystals and 2mm to 5mm for granules.

4.2 Chemical

The Sulphate of Ammonia fertilizer shall comply with the requirements given in Table 1.

Table 1 - Requirements for ammonium sulphate fertilizer

Characteristic	Requirement	Method of Test
Ammoniacal nitrogen (as N) % by mass, <i>min</i>	20	TZS 1016
Free acidity (as H ₂ SO ₄) % by mass, <i>max</i>	0.03	TZS 1283
Sulphur (as S) % by mass, <i>min</i>	23	TZS 1107
Moisture content, % by mass, <i>max</i>	1.0	TZS 990

5. HEAVY METAL CONTAMINANTS

Heavy metal contaminants in the fertilizer shall not exceed the limits given in Table 2 when determined by methods described in TZS 782.

Table 2 – Requirements for heavy metal contaminants

Element	Requirement
Arsenic, <i>mg/kg, max</i>	20
Cadmium, <i>mg/kg, max</i>	7
Mercury, <i>mg/kg, max</i>	0.1
Selenium, <i>mg/kg, max</i>	1
Lead, <i>mg/kg, max</i>	30
Chromium, <i>mg/kg, max</i>	500

6. STORAGE AND TRANSPORTATION

The fertilizer shall be stored and transported as prescribed in TZS 780.

7.0 SAMPLING AND TESTING

7.1 Sampling

Sampling of fertilizer shall be carried out as prescribed in TZS 159.

7.2 Testing

Testing of the fertilizer shall be done as prescribed in the methods of analysis indicated in respective standards.

8.0 PACKAGING AND LABELLING

8.1 Packaging

The fertilizer shall be packed in UV stabilized woven polypropylene (*wpp*) bags with 1 ply polyethylene (*pe*) inner lining. At the bottom of the bag, the woven fabric and the *pe* shall be hemmed then folded and secured together in lock stitches. At the top the inner lining and outer bag, shall be hemmed together. The bag shall be securely closed in lock stitches and without any opening. The stitching thread must be acid and heat resistant and of sufficient strength to hold the package secure and withstand multiple stages of handling. The outer *wpp* fabric shall measure not less than 10 x10 mesh weave of minimum 900 denier. The inner *pe* lining shall be of minimum of 70 microns thickness.

It is recommended that fertilizer is packed in 50 kg, 25kg, 5kg, 2kg, 1kg or as agreed to between the purchaser and supplier without comprising the packaging requirements

8.2 Labelling

The bags shall be labeled in Kiswahili or Kiswahili and English with the following information:

- a) name of the fertilizer i.e. "ammonium sulphate fertilizer;
- b) name and address of the manufacturer and importer;
- c) nutrient contents;
- d) net content by mass in kg;
- e) handling instructions – including the words "Use No hooks";
- f) production date and expiry date;
- g) Country of origin and
- h) batch number.

8.3 The containers/bags shall also be marked with the TBS Standards Mark of Quality.

NOTE – The TBS Standards Mark of Quality may be used by the manufacturers only under licence from TBS. Particulars of conditions under which the licences are granted, may be obtained from TBS.

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