SRI LANKA STANDARD 621:1983
UDC 661.52:631.841.2

SPECIFICATION FOR

AMMONIUM CHLORIDE (FERTILIZER GRADE)

BUREAU OF CEYLON STANDARDS

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SLS 621:1983

(Attached AMD 179)

Gr. 4

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SRI LANKA STANDARD
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FOREWORD

This Sri Lanka Standard Specification was authorized for adoption and publication by the Council of the Bureau of Ceylon Standards on 1983-12-20, after the draft, finalized by the Drafting Committee on Fertilizers, had been approved by the Agricultural and Food Products Divisional Committee.

All standard values given in this specification are in SI units.

For the purpose of deciding whether a particular requirement of this specification is complied with, the final value observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with CS 102. The number of significant places retained in the rounded off value should be the same as that of the specified value in this specification.

In the preparation of this specification, valuable assistance derived from relevant publications of the Indian Standards Institution is gratefully acknowledged.

1 SCOPE

This specification prescribes the requirements, methods of sampling and tests for ammonium chloride (fertilizer grade).

2 REFERENCES

CS 102 Presentation of numerical values

SLS 559 Sampling of fertilizers

SLS 645 Tests for fertilizers

3 REQUIREMENTS

3.1 General requirements

The material shall be in the form of white crystals or granules or powder, free from hard caking and shall have no perceptible odour.

3.2 Other requirements

The material shall also comply with the requirements given in Table 1.

TABLE 1 - Requirements for ammonium chloride

Sl No. (1)	Characteristic (2)	Requirement (3)	Method of test ref. to (4)
i	Moisture, per cent by mass, max.	2.0	SLS 645
ii	Ammoniacal nitrogen (as N), per cent by mass, min.	25.0	SLS 645
iii	Chlorides (as NaCl) other than ammonium chloride, per cent by mass, (on dry basis), max.	2.0	Appendix A

4 PACKAGING AND MARKING

4.1 Packaging

4.1.1 The material shall be packed in moisture-proof multi-wall paper bags, jute bags or polypropylene bags with inner lining, or in such other containers as agreed to between the purchaser and the supplier.

4.1.2 The packages shall be securely closed.

4.2 Marking

4.2.1 The following shall be legibly and indelibly marked on each package or container,

a) Words *Ammonium chloride, fertilizer grade* in capital letters;

b) The manufacturer's name and address;

c) Registered trade mark, if any;

d) Net mass in kg;

e) Batch or code number;

f) Date of manufacture; and

g) Per cent by mass of the ammoniacal nitrogen content of the material.

4.2.2 The packages or containers may also be marked with the Certification Mark of the Bureau of Ceylon Standards illustrated below on permission being granted for such marking by the Bureau of Ceylon Standards.

NOTE - The use of the Bureau of Ceylon Standards Certification Mark (SLS mark) is governed by the provisions of the Bureau of Ceylon Standards Act and the regulations framed thereunder. The SLS mark on products covered by a Sri Lanka Standard is an assurance that these have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control, which is devised and supervised by the Bureau and operated by the producer. SLS marked products are also continuously checked by the Bureau for conformity to the relevant standards as a further safeguard. Details of conditions under which a permit for the use of the Certification Mark is granted to manufacturers or processors may be obtained from the Bureau of Ceylon Standards.

5 SAMPLING

5.1 The sampling shall be carried out as prescribed in **SLS 559**.

5.2 Each package selected as prescribed shall be examined for packaging and marking requirements.

5.3 Tests for requirements specified in 3 shall be carried out on the composite sample prepared as in **SLS 559**.

6 METHODS OF TEST

Tests shall be carried out as prescribed in SLS 645 and Appendix **A**.

7 CONFORMITY TO STANDARD

A lot shall be declared as conforming to the requirements of this specification if the following conditions are satisfied.

7.1 Each package examined as in 5.2 satisfies the requirements for packaging and marking.

7.2 The composite sample tested as in 5.3 satisfies the relevant requirements.

7.2.1 The ammoniacal nitrogen content of the composite sample shall be not less than the declared ammoniacal nitrogen content of the material.

APPENDIX A

DETERMINATION OF CHLORIDES OTHER THAN AMMONIUM CHLORIDE

A.1 REAGENTS

A.1.1 *Standard silver nitrate solution* - 0.1N

A.1.2 *Nitric acid*, concentrated

A.1.3 *Nitrobenzene*

A.1.4 *Ferric ammonium sulphate solution* - 40 per cent

A.1.5 *Ammonium thiocyanate* - 0.1N.

A.2 PROCEDURE

Place approximately 2 g of the sample in a shallow porcelain dish, and dry for 24 h. in a vacuum dessicator over sulphuric acid. Weigh to the nearest milligram, about 0.2 g of the dried material, and dissolve in 40 ml of water. Add 50 ml of standard silver nitrate solution and 5 ml of concentrated nitric acid. Add 0.5 ml of nitrobenzene and make up the volume of the mixture to exactly 100 ml with water. Take 50 ml of this solution and add 2 ml of ferric ammonium sulphate solution. Titrate the excess silver nitrate in this portion with standard ammonium thiocyanate solution.

Carry out a blank test in the same manner but without using the material under test.

A.3 CALCULATION

A.3.1 Total Chlorides (as NaCl), per cent by mass,

$$\text{dry basis} = B = \frac{11.69\ (V_1 - V_2)\,N}{m}$$

where,

V_1 = volume, in ml, of standard ammonium thiocyanate solution used in the blank determination;

V_2 = volume, in ml, of standard ammonium thiocyanate solution used for the sample titration;

N = normality of the standard thiocyanate solution; and

m = mass, in g, of the dried sample taken for the test.

A.3.2 Express the ammoniacal nitrogen content of the material (determined as in SLS 645), in terms of NaCl, as follows:

Sodium chloride equivalent of the ammoniacal nitrogen content, per cent by mass = (C) = $4.173 \times A$

where,

A = ammoniacal nitrogen content in the material.

A.3.3 Chlorides (as NaCl), other than ammonium chloride, per cent by mass = $(B - C)$.

Amendment No. 1 approved on 1995-06-22
to SLS 621 : 1983
Sri Lanka Standard Specification for ammonium chloride (Fertilizer grade)

PAGE 3

Clause 2, line 3

Delete "SLS 645 Test for fertilizers" and substitute the following:

"SLS 645 Methods of test for fertilizers
Part 1 Determination of nitrogen content
Part 2 Determination of moisture content"

PAGE 4

Clause 3.2

TABLE 1 Sl. No. i

Delete "SLS 645" in Column 4 and substitute "SLS 645 : Part 2"

TABLE 1 Sl. No. ii

Delete "SLS 645" in Column 4 and substitute "SLS 645 : Part 1"

Clause 4.1

Include the following at the end of the text.

"Inner lining shall be of low density polyethylene having a minimum thickness of 37.5 μm or any other material having barrier properties superior or equal to low density polyethlene of 37.5 μm thickness.

Clause 4.2.1

In item f) Delete "and"
In item g) Delete the full stop and substitute "; and".

Include the following as item h) under Clause 4.2.1

"h) The words *use no hooks*, in capital letters."

PAGE 5

Clause 6

Delete "SLS 645 and Appendix A" and substitute "Parts 1 and 2 of SLS 645 and Appendix A of this specification".

SLS CERTIFICATION MARK

The Sri Lanka Standards Institution is the owner of the registered certification mark shown below. Beneath the mark, the number of the Sri Lanka Standard relevant to the product is indicated. This mark may be used only by those who have obtained permits under the SLS certification marks scheme. The presence of this mark on or in relation to a product conveys the assurance that they have been produced to comply with the requirements of the relevant Sri Lanka Standard under a well designed system of quality control inspection and testing operated by the manufacturer and supervised by the SLSI *which includes surveillance inspection of the factory, testing of both factory and market samples.*

Further particulars of the terms and conditions of the permit may be obtained from the Sri *Lanka Standards Institution, 17, Victoria Place, Elvitigala Mawatha, Colombo 08.*

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SRI LANKA STANDARDS INSTITUTION

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The principal objects of the Institution as set out in the Act are to prepare standards and promote their adoption, to provide facilities for examination and testing of products, to operate a Certification Marks Scheme, to certify the quality of products meant for local consumption or exports and to promote standardization and quality control by educational, consultancy and research activity.

The Institution is financed by Government grants, and by the income from the sale of its publications and other services offered for Industry and Business Sector. Financial and administrative control is vested in a Council appointed in accordance with the provisions of the Act.

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