SRI LANKA STANDARD 399 : 1994

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SPECIFICATION FOR PICKLES (FIRST REVISION)

SRI LANKA STANDARDS INSTITUTION

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SLS 399 : 1994

Gr. 6

SRI LANKA STANDARDS INSTITUTION
53, Dharmapala Mawatha,
Colombo 3,
Sri Lanka.

Sri Lanka Standards are subject to periodical revision in order to accommodate the progress made by industry. Suggestions for improvement will be recorded and brought to the notice of the Committees to which the revisions are entrusted.

This standard does not purport to include all the necessary provisions of a contract.

SRI LANKA STANDARD
SPECIFICATION FOR PICKLES
(FIRST REVISION)

FOREWORD

This standard was approved by the Sectoral Committee on Agriculture and Food Technology 1 and was authorized for adoption and publication as a Sri Lanka Standard by the Council of the Sri Lanka Standards Institution on 1994-11-24.

This specification was first published in 1976. In this first revision, methods of test have been included. Basic changes have been made in presentation aspects.

Guidelines for the determination of compliance of a lot with the requirements of this standard based on statistical sampling and inspection are given in Appendix A.

During the formulation of this specification due consideration has been given to the relevant provisions made under the Sri Lanka Food Act. No. 26 of 1980. Specific requirements given in this specification, wherever applicable, are in accordance with the relevant regulations. However, general provisions made under the Sri Lanka Food Act have not been included in this specification and therefore, the attention of the user of this specification is drawn to these general provisions.

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 an analysis, shall be rounded off in accordance with SLS 102. The number of significant places retained in the rounded off value shall be the same as that of the specified value in this specification.

In the preparation of this specification, the assistance derived from the following publication is gratefully acknowledged:
IS 3501 : 1966 Indian Standard Specification for pickles

1 SCOPE

This specification prescribes the requirements and methods of test for pickles.

2 REFERENCES

SLS 79 Edible common salt
SLS 102 Presentation of numerical values
SLS 143 General principles of food hygiene
SLS 168 Coconut toddy vinegar
SLS 191 White sugar
SLS 311 Determination of lead
SLS 315 Determination of tin
SLS 428 Random sampling methods
SLS 467 Labelling of pre-packaged foods
SLS 625 Artificial vinegar

3 DEFINITIONS

For the purpose of this specification, the following definition shall apply:

pickle : Fruits and/or vegetables preserved in brine, vinegar, oil or citrus juices.

4 TYPES

Pickles shall be of following three types :

a) Pickles in vinegar;
b) Pickles in citrus juice or brine; and
c) Pickles in oil.

5 INGREDIENTS / ADDITIVES

5.1 **Fruits and/or vegetables**, fresh or cured, clean and of good quality. They shall be free from insect or fungal infestations.

5.2 **Vinegar**, conforming to SLS 168 or SLS 625.

5.3 **Brine**, freshly prepared from salt conforming SLS 79.

5.4 **Citrus fruit juices**, freshly prepared.

5.5 **Edible vegetable oils.**

5.6 **Sugar**, conforming to SLS 191.

5.7 **Spices, onions, ginger, garlic.**

5.8 **Permitted preservatives.**

6 REQUIREMENTS

6.1 Processing requirements

Pickles shall be prepared under hygienic conditions as prescribed in SLS 143.

6.2 Product requirements

6.2.1 Pickles shall possess a flavour characteristic of the product. It shall be free from off flavours.

6.2.2 Pickles shall be free from any discoloration or blackening. It shall be free from foreign matter and/or fungal or insect infestations.

6.2.3 Fruits and/or vegetables after processing shall possess a firm and crisp texture. It shall not be unduly firm or soft.

6.2.4 Pickles shall be free from colouring matter and artificial sweeteners.

6.2.5 Pickles shall contain not more than 30 per cent by mass of fluid portion by mass of the net mass.

NOTE

In the case of 'gherkin in brine' a fluid portion up to 40 per cent by mass may be allowed.

6.2.6 Pickles shall conform to the requirements given in Table 1 when tested as given in Column 4 of the table.

TABLE 1 - Requirements for pickles

Sl. No. (1)	Characteristic (2)	Requirement (3)	Method of test (4)
i)	Acidity of fluid portion, per cent by mass		Appendix B
	a) for pickles in vinegar (as acetic acid) max.	3.0	
	b) for pickles in citrus juices (as anhydrous citric acid) min.	1.2	
ii)	Sodium chloride, per cent by mass, max. (for pickles in brine)	18	Appendix C

6.2.7 Pickles shall comply with the limits for heavy metals given in Table 2 when tested as given in Column 4 of the table.

TABLE 2 - Limits for heavy metals

Sl. No. (1)	Heavy metal (2)	Limit (3)	Method of test (4)
i)	Lead, mg/kg, max.	02	SLS 311
ii)	Tin, mg/kg, max.	250	SLS 315

7 PACKAGING

Pickles shall be packed in suitable containers which will not affect the product.

8 MARKING

8.1 Each container shall be marked or labelled legibly and indelibly with the following :

a) Name of the product as "(Name of fruit/vegetable) Pickle";
b) Description of the packing medium as any of the following, in close proximity to the the name of the product;
" in vinegar"
" in brine "
" in (name of the fruit) juice"
" in (name of the) oil "
c) Brand name ;
d) Net mass, in grams;
e) Name and address of the manufacturer / distributor (including the country of origin);
f) Batch / code number;
g) Date of expiry ; and
h) List of ingredients, in descending order of proporation

8.2 Marking and labelling shall also be in accordance with SLS 467.

NOTE

Attention is drawn to the certification facilities offered by the Sri Lanka Standards Institution. See the inside back cover of this standard.

9 METHODS OF TEST

Tests shall be carried out as given in SLS 311, SLS 315 and Appendices B and C of this specification.

APPENDIX A
COMPLIANCE OF A LOT

The sampling scheme given in this Appendix should be applied where compliance of a lot to the requirements of this standard is to be assessed based on statistical sampling and inspection.

Where compliance with this standard is to be assured based on manufacturer's control systems coupled with type testing and check tests or any other procedure, appropriate schemes of sampling and inspection should be adopted.

A.1 LOT

In any consignment all the containers of pickles of the same size and type belonging to one batch of supply or manufacture shall constitute a lot.

A.2 SCALE OF SAMPLING

A.2.1 Samples shall be tested from each lot for ascertaining conformity to the requirements of this specification.

A.2.2 The number of containers to be selected from a lot shall be in accordance with Table 3.

TABLE 3 - Scale of sampling

Number of containers in the lot (1)	Number of containers to be selected (2)	Size of the sub sample (3)
Up to 280	13	3
281 to 500	20	4
501 to 1 200	32	5
1 201 and above	50	6

A.2.3 The containers shall be selected at random. In order to ensure randomness of selection random numbers as given in SLS 428 shall be used.

A.3 NUMBER OF TESTS

A.3.1 Each container selected as in A.2.2 shall be inspected for packaging and marking requirements.

A.3.2 Each container inspected as in A.3.1 shall be examined for the requirements given in 6.2.1 to 6.2.4.

A.3.3 A sub sample as given in Column 3 of Table 3 shall be drawn from the containers inspected as in A.3.2. Each container of the sub sample shall be tested for the requirements given in 6.2.5 and 6.2.6.

A.3.4 A composite sample shall be prepared from the remaining containers inspected as in A.3.2 and shall be tested for the requirements given in 6.2.7.

A.4 CRITERIA FOR CONFORMITY

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

A.4.1 Each container inspected as in A.3.1 satisfies the relevant requirements.

A.4.2 Each container examined as in A.3.2 satisfies the relevant requirements.

A.4.3 Each container tested as in A.3.3 satisfies the relevant requirements.

A.4.4 The composite sample tested as in A.3.4 satisfies the relevant requirement.

APPENDIX B
DETERMINATION OF ACIDITY

B.1 REAGENTS

B.1.1 *Sodium hydroxide*, standardized, c (NaOH) = 0.1 mol/l solution.

B.1.2 *Phenolphthalein indicator solution*

0.1 g of phenolphthalein dissolved in 100 ml of 60 per cent rectified spirit.

B.2 PROCEDURE

Weigh, to the nearest milligram, about 10 g of well mixed fluid portion into a Erlenmeyer flask. Add few milliliters of water and mix thoroughly. Titrate against sodium hydroxide (B.1.1) using phenolphthalein (B.1.2) as the indicator.

B.3 CALCULATION

B.3.1 Acidity, as acetic acid, per cent by mass $= \frac{V \times c \times 6.04}{m}$

B.3.2 Acidity, as anhydrous citric acid, per cent by mass $= \frac{V \times c \times 6.40}{m}$

where,

V is the volume, in ml, of sodium hydroxide solution required for the titration;
c is the concentration, in mol/l, of the sodium hydroxide solution; and
m is the mass, in g, of the test portion.

APPENDIX C
DETERMINATION OF SODIUM CHLORIDE

C.1 REAGENTS

C.1.1 *Ethyl alcohol*

C.1.2 *Nitric acid,* concentrated

C.1.3 *Silver nitrate solution,* standardized, $c(AgNO_3) = 0.1$ mol/l.

C.1.4 *Ferric alum indicator solution*

C.1.5 *Ammonium thiocyanate solution,* $c(NH_4CNS) = 0.1$ mol/l, standardized.

C.2 PROCEDURE

Weigh, to the nearest milligram, about 5.0 g of the well mixed fluid portion and transfer to a 100-ml graduated flask with approximately 50 ml of 80 per cent alcohol. Shake well to suspend all insoluble material. Add 1 ml of nitric acid (C.1.2). Using a pipette add excess of known volume of silver nitrate (C.1.3). Dilute to 100 ml with alcohol. Transfer to a centrifuge bottle and centrifuge for five minutes at approximately 1 800 rev/min.

Pipette 50 ml of the supernatant liquid into a 300-ml Erlenmeyer flask. Add 2 ml of concentrated nitric acid and 2 ml of ferric alum indicator solution (C.1.4). Titrate with ammonium thiocyanate (C.1.5) to a permanent light brown colour.

C.3 CALCULATION

$$\text{Sodium chloride, per cent by mass} = \frac{(m_1 V_1 - 2m_2 V_2)5.85}{m}$$

where,

V_1 is the volume, in ml, of the standard silver nitrate solution;
m_1 is the concentration, in mol/l, of the standard silver nitrate solution;
V_2 is the volume, in ml, of the standard ammonium thiocyanate solution;
m_2 is the concentration, in mol/l, of the standard ammonium thiocyanate ; and
m is the mass, in g, of the test portion.

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.

The development and formulation of National Standards is carried out by Technical Experts and representatives of other interest groups, assisted by the permanent officers of the Institution. These Technical Committees are appointed under the purview of the Sectoral Committees which in turn are appointed by the Council. The Sectoral Committees give the final Technical approval for the Draft National Standards prior to the approval by the Council of the SLSI.

All members of the Technical and Sectoral Committees render their services in an honorary capacity. In this process the Institution endeavours to ensure adequate representation of all view points.

In the International field the Institution represents Sri Lanka in the International Organization for Standardization (ISO), and participates in such fields of standardization as are of special interest to Sri Lanka.

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