SRI LANKA STANDARD 134: 2017

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SPECIFICATION FOR
CURRY POWDER
(*Second Revision*)

SRI LANKA STANDARDS INSTITUTION

Sri Lanka Standard
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SLS 134: 2017
(Incorporating Erratum No. 1)

Gr.6

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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 CURRY POWDER
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FOREWORD

This Sri Lanka Standard was approved by the Sectoral Committee on Food Products and was authorized for adoption and publication as a Sri Lanka Standard by the Council of the Sri Lanka Standards Institution on 2017-07-21.

Curry powder, which is also known as condiments powder is a mixture of common spices prepared by grinding of cleaned and wholesome spices, aromatic herbs and seeds. Curry powder is generally used in cooking to impart aroma and flavour to a variety of culinary preparations.

This Standard was first published in 1972 and revised in 1998. Since then a broad range of varieties of curry powder is being marketed in the country. Therefore, with a view to enabling monitoring quality of curry powder currently traded, it was considered imperative to revise this Standard. In this second revision, the roasted curry powder and special purpose curry mixture are introduced as new product types and product types are revised accordingly. In addition to that, some requirements of the product and limits for heavy metals are updated and microbiological limits are introduced to safeguard the customer expectations.

This Standard is subject to the restrictions imposed under the Sri Lanka Food Act No. 26 of 1980, and the regulations framed thereunder.

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

In the revision of this Standard, the assistance derived from the related publications of the International Organization for Standardization (ISO) and the Bureau of Indian Standards is gratefully acknowledged.

1 SCOPE

This Standard prescribes the requirements and methods of sampling and test for curry powder.

2 REFERENCES

Official methods of Analysis, Association of Official Analytical Chemists (AOAC) 20th edition, 2016
CS 124 Test sieves
SLS 81 Ceylon cinnamon
SLS 102 Rules for rounding off numerical values

SLS 105 Whole pepper
Part 1: Black pepper
Part 2: White pepper
SLS 113 Nutmeg and mace
SLS 143 Code of practice for general principles of food hygiene
SLS 166 Cardamom
SLS 186 Methods of test for spices and condiments
Part 4: Determination of acid insoluble ash
Part 5: Determination of moisture content – Entrainment method
Part 7: Determination of non-volatile ether extract
Part 11: Determination of volatile oil content – hydro-distillation method
Part 12: Determination of degree of fineness of grinding – hand sieving method (Reference method)
SLS 241 Cloves
SLS 428 Random sampling methods
SLS 434 Mustard seeds
SLS 467 Code of practice for labeling of prepackaged foods
SLS 516 Methods of test for microbiology of food and animal feeding stuffs
Part 2/ Section 2: Horizontal method for the Enumeration of yeasts and moulds/ colony count technique in products with water activity less than or equal to 0.95
Part 5: Horizontal method for the detection of *Salmonella* spp.
Part 12: Horizontal method for the detection and enumeration of presumptive *Escherichia coli* (Most probable number technique)
SLS 613 Turmeric, whole and ground
SLS 1327 Code of practice for Spices and other dried aromatic plants
SLS 1362 Methods of test for agricultural food products
Part1: Determination of crude fibre content-general method
SLS 1563 Chillie, whole and ground
SLS 1565 Coriander, whole and ground

3 DEFINITIONS

For the purpose of this Standard the following definitions shall apply:

3.1 curry powder : The product obtained by mixing and grinding of two or more clean, dry and sound spices and condiments listed in Clause **5**

3.2 roasted curry powder: The product obtained by mixing, roasting and grinding of two or more clean, dry and sound spices and condiments listed in Clause **5**

3.3 special purpose curry mixture: The product obtained by mixing, roasting and grinding of two or more clean, dry and sound spices and condiments listed in Clause **5** with added edible starch. Flavoures or flavour enhancers shall not be present in the product

4 TYPES

The product shall be of the following types:

4.1 Raw curry powder

4.2 Roasted curry powder

4.3 Special purpose curry mixture

5 INGREDIENTS

Ingredients used shall not be exhausted.

5.1 Caraway (*Carum carvi* L.) fruit

5.2 Cardamom (*Elettaria cardamomum* var. major Thw.) fruit, seed, conforming to **SLS 166**

5.3 Chillie (*Capsicum annuum* L., *Capsicum frutescens* L. and their sub species, *C. chinense, C. pubescens* and *C. pendulum*) fruit, conforming to **SLS 1563**

5.4 Cinnamon (*Cinnamomum zeylanicum* Blume) bark, leaf, conforming to **SLS 81**

5.5 Cloves (*Syzygium aromaticum* (L.) Merr. & L.M.Perry) flower bud, conforming to **SLS 241**

5.6 Coriander (*Coriandrum sativum* L.) fruit, leaf, conforming to **SLS 1565**

5.7 Cumin (*Cuminum cyminum* L.) fruit

5.8 Curry leaves (*Murraya koenigii* (L.) Spreng) leaf

5.9 Dill (*Anethum graveolens* L.) fruit, leaf

5.10 Dry ginger (*Zingiber officinale* Roscoe) rhizome

5.11 Fennel *(Foeniculum vulgare* Miller) fruit, leaf, twig

5.12 Fenugreek *(Trigonella foenum-graecum* L.) seed

5.13 Garlic *(Allium sativum* L.) bulbils

5.14 Lemongrass (*Cymbopogon citratus* (DC.) Stapf.) leaf

5.15 Mace (*Myristica fragrans* Houtt.) aril, conforming to **SLS 113**

5.16 Mint (*Mentha spicata* L.) leaf, terminal shoot

5.17 Mustard (*Sinapis alba* L.) seed, conforming to **SLS 434**

5.18 Nutmeg (*Myristica fragrans* Houtt.) kernel, conforming to **SLS 113**

5.19 Pepper (*Piper nigrum* L.) fruit, conforming to **SLS 105**

5.20 Rampe (*Pandanus amaryllifolius* Roxb.) leaf

5.21 Turmeric (*Curcuma longa* L.) rhizome, conforming to **SLS 613**

5.22 Allspice (*Pimenta dioica*) fruit

6 GENERAL REQUIREMENTS

6.1 Hygiene

The product shall be processed, packaged, stored and distributed in accordance with the hygienic conditions prescribed in **SLS 143** and **SLS 1327**.

6.2 Aroma and flavour

Curry powder shall have the characteristic aroma and flavour. It shall be free from foreign aroma and flavour including rancidity and mustiness.

6.3 Absence of moulds, insect infestation and animal excreta

Curry powder shall be free from mould growth, living and dead insects, insect fragments and animal excreta, visible to the naked eye (corrected, if necessary, for abnormal vision), or using the required magnifying instrument. If the magnification exceeds ×10, this fact shall be mentioned in the test report.

6.4 Extraneous matter

The product shall be examined by microscope and shall not contain any morphological extraneous matter.

6.5 Absence of adulterants

The product shall not contain any deleterious matter added to it so as to render it injurious to health and shall be free from all admixtures including morphological extraneous matter, added starch when examined through a microscope and shall be free from added colouring substances.

NOTE
Special purpose curry mixtures may contain added edible starch.

6.6 Fineness

A minimum of 80 percent by mass of the material shall pass through a sieve of aperture size 500 µm, conforming to **CS 124** when determined by the method specified in **Part 12** of **SLS 186**.

6.7 Other requirements

Curry powder shall also conform to the requirements given in Table **1** when tested according to methods given in Column **4** of the table.

TABLE 1 - Requirements for curry powder

Sl No. (1)	**Characteristic** (2)	**Requirement** (3)	**Method of test** (4)
i)	Moisture, per cent by mass, max.	10.0	**SLS 186: Part 5**
ii)	Acid insoluble ash, on dry basis, per cent by mass, max.	2.0	**SLS 186: Part 4**
iii)	Crude fibre, on dry basis, per cent by mass, max.	20.0	**SLS 1362: Part 1**
iv)	Non-volatile ether extract, on dry basis, per cent by mass, min.	7.5	**SLS 186: Part 7**
v)	Volatile oil, ml/ 100g, min.		
	a) Raw curry powder	0.4	**SLS 186: Part 11**
	b) Roasted curry powder and special purpose curry mixture	0.25	

6.8 Microbiological limits

Curry powder shall conform to the limits given in Table **2** when tested according to the methods given in Column **4** of the table.

TABLE 2 – Microbiological limits for curry powder

Sl No. (1)	**Characteristic** (2)	**Limit** (3)	**Method of test** (4)
i)	*Escherichia coli*, MPN, per g	Absent	**SLS 516: Part 12**
ii)	*Salmonella*, in 25 g	Absent	**SLS 516: Part 5**
iii)	Yeasts and moulds, cfu, per g, max.	10^3	**SLS 516: Part 2/ Section 2**

6.9 Heavy metals

The curry powder shall not exceed the limits for heavy metals given in Table **3** when tested according to the methods given in Column **4** of the table.

TABLE 3 - Limits for heavy metals

Sl No. (1)	Heavy metal (2)	Limit (3)	Method of test (4)
i)	Arsenic, as As, mg/ kg, max.	0.1	**AOAC 986.15**
ii)	Cadmium, as Cd, mg/ kg, max.	0.1	**AOAC 999.11**
iii)	Lead, as Pb, mg/ kg, max.	2.0	**AOAC 999.11**

7 PACKAGING

The packaging material which comes into contact directly with the product shall be sufficiently inert to preclude substances from being transferred to food in quantities large enough to endanger human health or to bring about an unacceptable change in the composition of the product or deterioration in its organoleptic properties.

7.1. Bulk containers

Curry powder shall be packaged in suitable, clean and sound bags, packages or containers made of a material which shall not affect the product and which protects the product from the ingress or loss of moisture and volatile matter.

7.2 Retail containers

Curry powder shall be packaged in suitable, air-tight containers which shall be strong enough to withstand pressure in handling.

8 MARKING AND/ OR LABELING

8.1 The following shall be marked or labeled legibly and indelibly on each package or container:

a) The common name and the type of the product as “CURRY POWDER”, or as “ROASTED CURRY POWDER” or as “SPECIAL PURPOSE CURRY MIXTURE”. In case of special purpose curry mixture, recommended use shall be declared;
b) Brand name or trade name, if any;
c) Net mass in “g” or “kg”;
d) Name and address of the manufacturer and packer or distributor;
e) Batch or code number or decipherable code marking;
f) Date of manufacture;
g) Date of expiry
h) In case where curry powder is imported in bulk and repackaged, the date of repackaging;
j) Country of origin, in case of imported products;
k) Complete list of ingredients in descending order of their proportions; and
m) Instructions for storage.

8.2 The marking and labeling shall also be in accordance with **SLS 467**.

9 SAMPLING

Representative samples of the product for ascertaining conformity to the requirements of this Standard shall be drawn as prescribed in Appendix **A**.

10 METHODS OF TEST

Curry powder shall be tested for ascertaining conformity of the material to the requirements of this Standard by the methods of test given in **Part 4**, **Part 5**, **Part 7**, **Part 8**, **Part 11** and **Part 12** of **SLS 186**, **Section 1** of **Part 1**, **Part 5** and **Part 12** of **SLS 516**, **Part 1** of **SLS 1362** and Official Methods of Analysis of the Association of official Analytical Chemists (**AOAC**), 20th Edition, 2016.

11 CRITERIA FOR CONFORMITY

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

11.1 Each package/ container examined as in **A.6.1** satisfies the packaging and marking and/ or labeling requirements.

11.2 Each unit examined as in **A.6.2** satisfies the requirements given in Clauses **6.2**, **6.4** and **6.5**.

11.3 The composite sample tested as in **A.6.3** satisfies the requirements given in Clauses **6.3**, **6.6, 6.7** and **6.9**.

11.4 Each sample tested as in **A.6.4** satisfies the requirements given in Clause **6.8**.

APPENDIX A
SAMPLING

A.1 LOT

In any consignment all the containers of the same size filled with the product belonging to one batch of manufacture or supply shall constitute a lot.

A.2 GENERAL REQUIREMENTS OF SAMPLING

In drawing, preparing, storing and handling samples, following precautions and directions shall be taken.

A.2.1 Samples shall be drawn in a protected place not exposed to damp, air, dust or soot.

A.2.2 The sampling instruments shall be clean and dry when used. When drawing samples for microbiological examination, the sampling instruments shall be sterilized.

A.2.3 Precautions shall be taken to protect the samples, the product being sampled and the sample container from adventitious contamination.

A.2.4 The samples shall be placed in clean and dry containers. The size of the sample containers shall be of such size that they are almost completely filled by the sample. When drawing samples for microbiological examination, the sample containers shall be sterilized.

A.2.5 The sample containers shall be sealed, air-tight after filling and marked with necessary details of sampling.

A.2.6 Samples shall be stored in such a manner that the temperature of the material does not vary unduly from the room temperature.

A.3 SCALE OF SAMPLING

A.3.1 Samples shall be tested from each lot for ascertaining its conformity to the requirements of this Standard.

A.3.2. The number of cartons or containers to be selected from the lot shall be in accordance with Table **4**.

Table 4 – Scale of sampling

Number of cartons or containers in the lot (1)	**Number of cartons or containers to be selected** (2)
Up to 280	10
281 to 500	12
501 to 1200	15
1201 and above	20

A.3.3 If the cartons are packed in master cartons, 10 per cent of the master cartons subject to a minimum of two master cartons shall be selected, and as far as possible an equal number of cartons shall be drawn from each master carton so selected to form a sample as given in the table.

A.3.4 The number of units to be drawn from each carton or container shall depend on the number of units in that carton. These units shall be drawn at random at the rate of one unit per each 10 units.

A.3.5 The master cartons or containers shall be selected at random. In order to ensure randomness of selection table of random number as in **SLS 428** shall be used.

A.4 PREPARATION OF SAMPLES

Sufficient quantity of material shall be drawn from each container selected as in **A.3.2** and mixed to form a composite sample of at least 700 g and the composite sample thus obtained shall be transferred to a sample container and sealed air-tight.

A.5 REFERENCE SAMPLE

If a reference sample is required the size of the sample to be taken shall be three times the size given in **A.4** and the samples so obtained shall be divided into three equal parts using coning and quartering method. Samples shall be transferred into three sample containers and sealed air-tight. One such sample shall be marked for the purchaser, one for the supplier and the third shall be kept at a place agreed to between the purchaser and the supplier to be used in case of dispute.

A.6 NUMBER OF TESTS

A.6.1 Each container selected as in **A.3.2** shall be inspected for packaging and marking and/ or labeling requirements.

A.6.2 Each container selected as in **A.3.2** shall be examined for the requirements given in Clauses **6.2**, **6.4** and **6.5**.

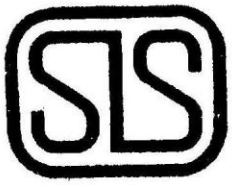
A.6.3 The composite sample obtained as in **A.4** shall be tested for the requirements given in Clauses **6.3**, **6.6**, **6.7** and **6.9**.

A.6.4 A sub sample, each compositing 03 containers shall be drawn from the containers selected as in **A.3.2** and tested for microbiological limits (*see* **6.8)**.

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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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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