SRI LANKA STANDARD 897: 2017

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SPECIFICATION FOR
MALTED FOOD PRODUCTS

(First Revision)

SRI LANKA STANDARDS INSTITUTION

Sri Lanka Standard
SPECIFICATION FOR MALTED FOOD PRODUCTS
(First Revision)

SLS 897: 2017
(Attached AMD 508)

Gr. 6

SRI LANKA STANDARDS INSTITUTION
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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 MALTED FOOD PRODUCTS
(First Revision)

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 2017-12-04.

This Standard was first published in 1990. In this first revision, definitions have been revised and the products have been categorized under two different types. Chemical requirements for the two products have been revised, microbiological limits and the levels for heavy metals have been introduced to safeguard the consumers.

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 results of a test or analysis shall be rounded off as in accordance with **SLS 102**. The number of significant figures to be retained in the rounded off value shall be the same as that of the specified value in this Standard.

In the revision of this Standard valuable assistance derived from the publications of Bureau of Indian Standards is gratefully acknowledged.

1 SCOPE

This Standard prescribes the requirements and methods of sampling and tests for malted food products.

2 REFERENCES

Official methods of Analysis, Association of Official Analytical Chemists (AOAC) 20th edition, 2016

SLS	80	Food grade salt (powdered form)
SLS	102	Rules for rounding off numerical values
SLS	143	Code of practice for general principles of food hygiene
SLS	144	Wheat flour
SLS	148	Cocoa powder and cocoa-sugar mixtures
SLS	181	Raw and processed milk
SLS	191	White sugar
SLS	428	Random sampling methods
SLS	467	Code of practice for labeling of prepackaged foods
SLS	516	Methods of test for microbiology of food and animal feeding stuffs Part 1/ Section 1: Horizontal method for the enumeration of microorganisms- Colony count at 30 ^{o}C by the pour plate technique

		Part 2/ Section2: Horizontal method for the enumeration of yeast and moulds/ Colony count technique in products with water activity less than or equal to 0.95 Part 3/ Section 1: Horizontal method for the detection and enumeration of coliforms/ Most probable number technique 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	731	Milk powder
SLS	735	Methods of test for milk and milk products Part 1/ Section 2: Determination of fat content/ Dried milk and dried milk products – gravimetric method Part 3: Determination of Moisture Part 8: Determination of total ash/ acid insoluble ash
SLS	1549	Methods of tests for cereals, pulses and derived products Part 2: Determination of the Nitrogen content and calculation of the crude protein content – Kjeldahl method

3 DEFINITIONS

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

3.1 malted milk foods: Product obtained by a combination of whole milk, partially skimmed milk or milk powder, with malt/ malt extract from barley and malt/ malt extract from any other cereal grain with or without addition of optional ingredients (Clause **5.1.2**) and without added sugars, in such a manner as to secure hydrolysis of the starch and prepared in the form of powder or granules or flakes. Sucrose can be added only to the products which contains cocoa powder.

3.2 malted foods: Product obtained by malt/ malt extract from barley and malt/ malt extract from other cereal grains with cereal and/ or legume flour with or without addition of optional ingredients (Clause **5.2.2**). It may be processed in such a manner to secure hydrolysis of starch and prepared in the form of powder or granules or flakes.

4 TYPES

4.1 Malted milk foods
4.2 Malted foods

5 INGREDIENTS

5.1 Malted milk foods

5.1.1 *Basic ingredients*
5.1.1.1 Malt from barley/ malt extract from barley
5.1.1.2 Malt from other cereal grains/ malt extract from other cereal grains
5.1.1.2 Milk, conforming to **SLS 181**/ milk powder, conforming to **SLS 731**

5.1.2 *Optional ingredients/ additives*

5.1.2.1 Wheat flour, conforming to **SLS 144**
5.1.2.2 Cereal flour
5.1.2.3 Cocoa powder, conforming to **SLS 148**
5.1.2.4 Protein isolates
5.1.2.5 Whey powder
5.1.2.6 White sugar conforming to **SLS 191**
5.1.2.7 Food grade salt (powdered form) conforming to **SLS 80**
5.1.2.8 Vitamins and minerals
5.1.2.9 Food additives

5.1.2.9.1 Emulsifying agents/ stabilizers		
Lecithins	INS 322	Limited by GMP
Mono and diglycerides of fatty acids	INS 471	
Guar gum	INS 412	
Sodium dihydrogen phosphate	INS 339 (i)	1000 mg/ kg, max as Phosphorus
Disodium hydrogen phosphate	INS 339 (ii)	
Trisodium phosphate	INS 339 (iii)	
5.1.2.9.2 Acidity regulators		
Sodium hydrogen carbonate	INS 500 (ii)	Limited by GMP
Potassium hydrogen carbonate	INS 501 (ii)	
Calcium carbonates	INS 170 (i)	
Calcium dihydrogen phosphate	INS 341 (i)	1000 mg/ kg, max as Phosphorus
Calcium hydrogen phosphate	INS 341 (ii)	
Tricalcium phosphate	INS 341 (iii)	
5.1.2.9.3 Anti-caking substances		
Silicon dioxide (amorphous)	INS 551 – Limited by GMP	
5.1.2.9.4 Raising substances		
Sodium carbonate	INS 500 (i) - Limited by GMP	
5.1.2.9.5 Colouring substances		
Caramel class I	INS 150 a	
Caramel class III	INS 150 c	

5.1.2.9.6 Permitted flavouring substances, natural, nature-identical and/ or artificial
5.1.2.10 Coffee/ coffee extract
5.1.2.11 Tea extract
5.1.2.12 Nuts
5.1.2.13 Dietary fiber

NOTE
No preservatives shall be added to the product.

5.2 Malted foods

5.2.1 *Basic ingredients*

5.2.1.1 Malt from barley/ malt extract from barley
5.2.1.2 Malt from other cereal grains/ malt extract from other cereal grains
5.2.1.3 Cereal and/ or legume flour

5.2.2 *Optional ingredients/ additives*

5.2.2.1 Milk, conforming to **SLS 181**/ milk powder, conforming to **SLS 731**
5.2.2.2 Cocoa powder, conforming to **SLS 148**
5.2.2.3 Edible vegetable oils and fat
5.2.2.4 Vitamins and minerals
5.2.2.5 White sugar conforming to **SLS 191**
5.2.2.6 Food grade salt (powdered form) conforming to **SLS 80**
5.2.2.7 Protein isolates
5.2.2.8 Whey powder
5.2.2.9 Food additives
5.2.2.9.1 Emulsifying agents/ stabilizers

Lecithins	INS 322	Limited by GMP
Mono and diglycerides of fatty acids	INS 471	
Guar gum	INS 412	
Sodium dihydrogen phosphate	INS 339 (i)	1000 mg/ kg, max as Phosphorus
Disodium hydrogen phosphate	INS 339 (ii)	
Trisodium phosphate	INS 339 (iii)	

5.2.2.9.2 Acidity regulators

Sodium hydrogen carbonate	INS 500 (ii)	Limited by GMP
Potassium hydrogen carbonate	INS 501 (ii)	
Calcium carbonates	INS 170 (i)	
Calcium dihydrogen phosphate	INS 341 (i)	1000 mg/ kg, max as Phosphorus
Calcium hydrogen phosphate	INS 341 (ii)	
Tricalcium phosphate	INS 341 (iii)	

5.2.2.9.3 Permitted antioxidants – only if vegetable oil is added
5.2.2.9.4 Anti-caking substances

Silicon dioxide (amorphous)	INS 551 – Limited by GMP

5.2.2.9.5 Raising substances

Sodium carbonate	INS 500 (i) – Limited by GMP

5.2.2.9.6 Colouring substances

Caramel class I	INS 150 a
Caramel class III	INS 150 c

5.2.2.9.7 Permitted flavouring substances, natural, nature-identical and/ or artificial
5.2.2.10 Coffee/ coffee extract
5.2.2.11 Tea extract
5.2.2.12 Nuts
5.2.2.13 Dietary fiber

NOTE
No preservatives shall be added to the product.

6 REQUIREMENTS

6.1 Hygiene

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

6.2 Appearance

The product shall be in the form of powder or granules or flakes and shall be free from lumps. It shall be substantially free form scorched particles. It shall be free from dirt and other extraneous matter.

6.3 Flavour and odour

The flavour of the product shall be characteristic and shall be free from objectionable flavour and odour.

6.4 Absence of mould growth and insect infestation

The product shall be free from signs of mould growth and insect infestation.

6.5 Compositional and chemical requirements

The product shall conform to the requirements given in Table **1** when tested according to the methods given in Column **5** of the table.

TABLE 1 - Requirements for malted food products

Sl No.	**Characteristic**	**Requirement**		**Method of test**
		Malted milk foods	**Malted foods**	
(1)	(2)	(3)	(4)	(5)
i)	Moisture, per cent by mass, max.	3.5	3.5	**SLS 735: Part 3**
ii)	Fat, on dry basis per cent by mass, min. per cent by mass, max.	 7.0 --	 4.0 9.0	**SLS 735: Part 1/ Section 2**
iii)	Protein on dry basis, per cent by mass, min.	11.5	8.0	**SLS 1549: Part 2**
iv)	Ash, on dry basis, per cent by mass, max	6.0	7.0	**SLS 735: Part 8**
v)	Acid insoluble ash, on dry basis, per cent by mass, max	0.1	0.1	**SLS 735: Part 8**

6.6 Microbiological limits

The product shall comply with the microbiological limits given in Table **2** when tested according to the methods given in Column **7** of the table.

TABLE 2 - Microbiological limits

Sl No.	Test organism	n	c	Limit		Method of test
				m	M	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	Aerobic plate count, per g	5	2	20,000	50,000	**SLS 516: Part 1/ Section 1**
ii)	Coliforms, MPN per g	5	0	0	--	**SLS 516: Part 3/ Section 1**
iii)	*E. coli*, MPN per g	5	0	Absent	--	**SLS 516: Part 12**
iv)	Yeasts and moulds, per g	5	0	100	--	**SLS 516: Part 2/ Section 2**
v)	*Salmonella*, per 25 g	5	0	Absent	--	**SLS 516: Part 5**

where,

n is the number of sample units to be tested;

c is the maximum allowable number of sample units yielding values between m and M;

m is the limit below which a count is acceptable for any sample; and

M is the limit above which a count is unacceptable for any sample.

6.7 Heavy metals

The product shall not exceed the limits given in Table **3**, when tested separately according to the methods given in Column **4** of the table.

TABLE 3 - Limits for heavy metals

Sl No.	Heavy metal	Limit	Method of test
(1)	(2)	(3)	(4)
i)	Arsenic, as As, mg/ kg, max	0.1	**AOAC 986.15**
ii)	Cadmium, as Cd, mg/ kg, max	0.2	**AOAC 999.11**
iii)	Lead, as Pb, mg/ kg, max	0.2	**AOAC 994.02**

7 PACKAGING

The product shall be packaged in hermetically sealed, clean and food grade metal or glass containers or other moisture-proof packages made of food grade flexible packaging materials.

8 MARKING AND/ OR LABELLING

8.1 The following shall be marked or labelled legibly and indelibly on each container destined for the final consumer.

a) Name and type of the product as "MALTED MILK FOOD" or "MALTED FOOD";
b) Brand name or trade mark, if any;
c) Net mass in 'g' or 'kg';
d) Any permitted food additive's name and INS number;
e) Name and address of the manufacturer and packer or distributor in Sri Lanka;
f) Country of origin, in case of imported products;
g) Batch or code number or a decipherable code marking;
h) Date of manufacture;
j) Date of expiry;
k) In case, where the product is imported in bulk and re-packaged, the date of re-packaging;
m) List of ingredients;
A complete list of ingredients shall be declared on the label in descending order of proportion except that in the case of added vitamins and added minerals, these ingredients shall be arranged as separate groups for vitamins and minerals, respectively, and within these groups, vitamins and minerals need not be listed in descending order of proportion;
n) Storage instructions; and
p) Directions for use.

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

Tests shall be carried out as prescribed in **Section 1** of **Part 1**, **Section 2** of **Part 2, Section 1** of **Part 3**, **Part 5** and **Part 12** of **SLS 516**, **Section 2** of **Part 1**, **Part 3** and **Part 8** of **SLS 735**, **Part 2** of **SLS 1549** and 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 inspected as in **A.5.1** satisfies packaging and marking and/ or labeling requirements.

11.2 Each package examined as in **A.5.2** satisfies the relevant requirements given in Clauses **6.2**, **6.3** and **6.4**.

11.3 The composite sample when tested as in **A.5.3** satisfies the relevant requirements given in Clauses **6.5** and **6.7**.

11.4 Each sample when tested as in **A.5.4** satisfies the microbiological requirements given in Clause **6.6**.

APPENDIX A
SAMPLING

A.1 LOT

In any consignment all the packages of the same size, containing malted food products, belonging to one batch of manufacture, or supply shall constitute a lot.

A.2 GENERAL REQUIREMENTS OF SAMPLING

When drawing, preparing, sorting and handling samples, following precautions and directions shall be taken:

A.2.1 Samples for microbiological analysis shall be drawn first.

A.2.2 Sampling instruments shall be clean and dry when used. When drawing samples for microbiological analysis the sampling instruments shall be sterilized.

A.2.3 The samples shall be kept in cleaned and dried suitable sample containers. Samples for microbiological analysis shall be kept in sterilized sample containers.

A.2.4 The sample containers shall be sealed air-tight and marked with the necessary details of sampling.

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 bulk packages to be selected from a lot shall be in accordance with Table **4**.

TABLE 4 - Scale of sampling for bulk packages

Number of bulk packages in the lot (1)	Number of bulk packages to be selected (2)
Up to 300	7
301 to 500	8
501 to 1 200	10
1201 And above	13

A.3.3 The number of retail packages to be selected from a lot shall be in accordance with Table **5**.

TABLE 5 - Scale of sampling for retail packages

Number of retail packages in the lot (1)	Number of retail packages to be selected (2)
Up to 1 000	8
1 001 to 3 000	10
3 001 to 10 000	13
10 001 to 30 000	18
30 001 and above	25

A.3.4 The packages shall be selected at random. In order to ensure randomness of selection, tables of random numbers as given in **SLS 428** shall be used.

A.4 PREPARATION OF TEST SAMPLES

A.4.1 Preparation of samples for microbiological analysis

Five packages shall be selected from the packages selected as in **A.3.2** or **A.3.3**. A sufficient quantity of material, not less than 100 g, shall be drawn aseptically form each bulk package so selected. In case of retail packages, a package shall be treated as a sample. Material obtained from each package shall be transferred to separate sample containers.

A.4.2 Preparation of the composite sample

Approximately an equal quantity of material shall be drawn from each package selected as in **A.3.2** or **A.3.3** and mixed to form a composite sample of required size. The composite sample thus obtained shall be transferred to a sample container.

A.5 NUMBER OF TESTS

A.5.1 Each package selected as in **A.3.2** or **A.3.3** shall be inspected for packaging and marking and/ or labeling requirements.

A.5.2 Each package selected as in **A.3.2** or **A.3.3** shall be examined for the requirements given in Clauses **6.2, 6.3** and **6.4**.

A.5.3 The composite samples prepared as in **A.4.2** shall be tested for the requirements given in Clauses **6.5** and **6.7**.

A.5.4 Each sample prepared as in **A.4.1** shall be tested for the requirements given in Clause **6.6**.

Amendment No: 1 Approved on 2018-08-10 to SLS 897: 2017

AMENDMENT NO: 1 TO SLS 897: 2017
SRI LANKA STANDARD SPECIFICATION FOR MALTED FOOD PRODUCTS (FIRST REVISION)

EXPLANATORY NOTE

This amendment is issued after a decision taken by the Working group on Malted food products in order to amend the maximum level of fat per cent by mass, on dry basis, for the products which contain cocoa.

Amendment No: 1 Approved on 2018-08-10 to SLS 897: 2017

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SRI LANKA STANDARD SPECIFICATION FOR MALTED FOOD PRODUCTS (FIRST REVISION)

Page 7
Table 1
Sl No ii), Column No (4)

Insert "*" after the value "9.0"
Insert a footnote to the table as follows.
"**The limit shall not exceed* 11.0*, when cocoa is added to the product."*

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.

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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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