SRI LANKA STANDARD 824 PART 2: 2018

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SPECIFICATION FOR
FERMENTED MILK PRODUCTS
PART 2: YOGHURT
(*First Revision*)

SRI LANKA STANDARDS INSTITUTION

Sri Lanka Standard
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SLS 824 Part 2: 2018

Gr. 8

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 FERMENTED MILK PRODUCTS
PART 2: YOGHURT
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FOREWORD

This 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 2018-08-10.

This Standard was first published in 1988. In this Revision, compositional requirements have been updated by introducing milk protein as a requirement and microbiological requirements by introducing a three class monitoring plan and limits for *Salmonella* and *Listeria monocytogenes*. References to the latest methods of test have been given.

This Standard (**SLS 824**) consists of two parts as follows:
Part 1: Curd
Part 2: Yoghurt

This Standard is subject to the provisions of the 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 an 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 preparation of this Standard the assistance obtained from the publications of the Codex Alimentarius Commission, National Health and Medical Research Council of Australia and Bureau of Indian Standards is gratefully acknowledged.

1 SCOPE

This Part of the Standard prescribes the requirements and methods of sampling and test for yoghurt.

2 REFERENCES

ISO	29981	Milk products--Eumeration of presumptive bifidobacteria – Colony - count technique at 37 °C
SLS	102	Rules for rounding off numerical values
SLS	143	Code of practice for general principles of food hygiene
SLS	148	Cocoa powder and cocoa-sugar mixtures
SLS	181	Raw and processed milk
SLS	191	White sugar
SLS	265	Jams, jellies and marmalades

SLS	393	Code of practice for preparation of test samples, initial suspension and decimal dilutions for microbiological examination of food and animal feeding stuffs Part 5: Specific rules for the preparation of milk and milk product
SLS	428	Random sampling methods
SLS	464	Bees honey
SLS	467	Labelling of prepackaged foods
SLS	516	Method of test for microbiology of food and animal feeding stuffs Part 3: Horizontal method for the detection and enumeration of Coliforms/ Section 1: Most Probable Number Part 5: Horizontal method for the detection of *Salmonella* spp. Part 6: Horizontal method for the enumeration of coagulase positive *Staphylococcus aureus* and other species/ Section 1: Technique using Baired Packer Agar medium Part 12: Horizontal method for the detection and enumeration of presumptive *Escherichia coli* (Most Probable Number Method) Part 15: Horizontal method for the detection and enumeration of *Listeria monocytogenes* and of *Listeria* spp./ Section 1: Detection method
SLS	614	Potable water
SLS	729	Ready- to- serve fruit drinks
SLS	735	Methods of test for milk and milk products Part 1: Determination of fat content / Section 6: Gerber butyrometers Part 6: Determination of sugars Part 7: Determination of protein- nitrogen content/ Section 1: Milk determination of nitrogen content – Kjeldhal method Part 17: Determination of the benzonic and sorbic acid content
SLS	872	Code of hygienic practice for dairy industries
SLS	1328	Fruit juices and nectars
SLS	1558	Microbiology of milk and milk products Part 1: Enumeration of colony- forming units of yeasts and/or moulds -- Colony count technique at 25 ^{0}C Part 3: Yogurt -- Identification of characteristic microorganisms (*Lactobacillus delbrueckii* subsp. *bulgaricus* and *Streptococcus thermophilus*) Part 4: Yoghurt- Enumeration of characteristic microorganisms – Colony - count technique at 37 ^{0} C

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

3 DEFINITIONS

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

3.1 fermented milk products: The milk product obtained by fermentation of milk, which milk may have been manufactured from products obtained from milk with or without compositional modification, as limited by the provision in Clause **6.4**, by the action of suitable microorganisms and resulting in reduction of pH with or without coagulation (iso-electric precipitation). These starter microorganisms shall be viable, active and abundant in

the product to the date of minimum durability. If the product is heat treated after fermentation, the requirement for viable microorganisms does not apply.

3.2 yoghurt: A coagulated milk product obtained by fermentation through the action of harmless lactic acid producing bacterial cultures including symbiotic cultures of *Streptococcus thermophilus* and *Lactobacillus delbrueckii* subsp. *bulgaricus* on milk and milk products such as pasteurized milk, concentrated milk, pasteurized partly skimmed milk, concentrated partly skimmed milk, pasteurized skimmed milk, concentrated skimmed milk, pasteurized cream, or any mixture of two or more of these products or milk powder, partly skimmed milk powder, skimmed milk powder and whey proteins. These microorganisms must be viable, active and abundant (a minimum of 10^7 cfu/g) in the final product up to the date of expiry.

3.3 fruit yoghurt : Yoghurt to which fruit has been added. The addition of fruit may be as fresh fruit, canned fruit, frozen fruit or dried fruit that can be separated from the yoghurt. It may contain fruit juice, fruit pulp, sugar, natural flavouring substances and permitted colouring substances. The yoghurt portion shall conform to the compositional requirements specified for the product types specified in Clause **6.4.**

3.4 flavoured yoghurt : Yoghurt to which flavouring substances have been added. It may contain sugar, corn syrup or glucose syrup and permitted colouring substances (and flavouring substances).

3.5 jelly yoghurt : Yoghurt to which jelly has been added as a distinctive layer. The yoghurt portion shall conform to the compositional requirements specified for the product types specified in Clause **6.4.**

3.6 drinking yoghurt : Ready to serve drink prepared from yoghurt of low viscosity.

3.7 yoghurt with "X" : yoghurt to which a natural flavouring agent "X" has been added. "X"may be chocolate, treacle, honey and / or cereal.. It may or may not be separated from the yoghurt. It may contain natural flavouring substances and permitted colouring substances. The yoghurt portion shall conform to the compositional requirements specified for the product types specified in Clause **6.4.**

3.8 thermised /heat treated yoghurt: Yoghurt subjected to heat treatment after fermentation at temperature not less than 65 ^{0}C and shall conform to the compositional requirements specified for the product types specified in Clause **6.4** except that they need not contain viable microorganisms.

4 TYPES

Yoghurt shall be of the following four types:

a) Yoghurt;
b) Low-fat / partially skimmed yoghurt;
c) Non-fat / skimmed yoghurt;
d) Drinking yoghurt;
e) Low-fat / partially skimmed yoghurt; and
f) Non-fat / skimmed yoghurt.

5 INGREDIENTS

All ingredients used shall comply with the Food Act No. 26 of 1980 and the regulations framed thereunder.

5.1 Basic ingredients

5.1.1 *Milk*, confirming to **SLS 181.** One of the following types shall be used:
a) cow and/ or buffalo milk;
b) standardized milk;
c) skimmed milk/ partially skimmed milk;
d) reconstituted milk; and
e) concentrated milk.

It shall be pasteurized or sterilized.

5.1.2 *Water*, conforming to **SLS 614** for re-constitution of milk

5.1.3 *Culture*, harmless lactic acid producing bacterial cultures including symbiotic cultures of *Streptococcus thermophilus* and *Lactobacillus delbrueckii* subsp. *bulgaricus*

5.2 Optional ingredients

5.2.1 *Sugar*, conforming to **SLS 191**

5.2.2 *Permitted colouring substances*

5.2.3 *Flavouring substances;* fruit yoghurt and yoghurt with 'X" may contain only natural flavouring substances.

5.2.4 *Stabilizers*
Gelatin, pectin, alginates, modified starch or agar-agar may be used as a stabilizer, singly or in combination and, if used, shall not exceed 1 per cent mass by mass of the product.

5.2.5 *Preservatives*, (for flavoured, fruit and heat treated yoghurt only)
a) Sodium, Potassium or Calcium salts of sorbic acid
b) Sulphur dioxide

5.2.6 *Fruit and fruit products* (for fruit yoghurt only)

Following fruit ingredients may be used:
a) Edible fruits;
b) fruit pulps or juices, conforming to **SLS 1328**;
c) jams, conforming to **SLS 265**;
d) honey, conforming to **SLS 464**;
e) chocolate, conforming to **SLS 326**;
f) cocoa powder, conforming to **SLS 148**; and
g) cereals.

The fruit juices shall be prepared from properly matured fruits free from seeds, skin and core. They shall be suitably pasteurized.

6 REQUIREMENTS

6.1 Hygienic requirements

Yoghurt shall be processed, packaged, stored and distributed under hygienic conditions as specified in **SLS 143** and **SLS 872**.

6.2 General requirements

6.2.1 Yoghurt shall have a characteristic odour and flavour.

6.2.2 Yoghurt shall be clean, free from dirt and extraneous matter.

6.3 Preservatives

Yoghurt (only for flavoured, fruit and heat treated yoghurt) shall not contain more than 300 mg/ kg Sodium, Potassium or Calcium salts of sorbic acid when determined according to the **Part 17** of **SLS 735**. Fruit yoghurt shall not contain more than 50 mg/ kg Sulphur dioxide carried over from fruits and fruit based products when determined according to the **SLS 729**.

6.4 Compositional requirements

Yoghurt shall also comply with the requirements specified in Table **1**, when tested according to the methods prescribed in Column **9** of the table.

TABLE 1 - Requirements for yoghurt

Sl. No. (1)	**Characteristic** (2)	**Yoghurt** (3)	**Low-fat yoghurt** (4)	**Non-fat yoghurt** (5)	**Drinking yoghurt** (6)	**Low-fat drinking yoghurt** (7)	**Non-fat drinking yoghurt** (8)	**Method of test** (9)
i)	Milk fat*, per cent by mass	3.0 min.	0.5 to 2.9	0.5 max.	2.2 min.	0.5 to 2.2	0.5 max.	SLS 735 : Part 1/ Section 6
ii)	Milk solids non fat*, per cent by mass, min.	8.0	8.0	8.0	6.0	8.0	8.0	Appendix B
iii)	Milk protein*, min.	2.7	2.7	2.7	2.7	2.7	2.7	SLS 735 : Part 7/ Section 1
iv)	pH, max.	4.5	4.5	4.5	4.5	4.5	4.5	Appendix C
v)	Added sugar, per cent by mass, max.	10	10	10	10	10	10	Appendix D or AOAC 980.13

** not applicable for fruit yoghurt or flavoured yoghurt or yoghurt with "X" where yoghurt portion could not be separated.*

6.5 Microbiological limits

6.5.1 Yoghurt shall conform to the microbiological limits specified in Table **2**, when tested according to the methods prescribed in Column **7** of the table.

TABLE 2 - Microbiological limits

Sl NO (1)	**Organism** (2)	**n** (3)	**c** (4)	**m** (5)	**M** (6)	**Method of test** (7)
i)	Coliform, MPN per g	5	2	10	1×10^2	SLS 516 : Part 3/ Section 1
ii)	*Escherichia coli*, MPN per g	5	0	Absent	-	SLS 516 : Part 12
iii)	*Staphylococcus aureus* (coagulase positive), per g	5	2	10	1×10^2	SLS 516 : Part 6/ Section 1
iv)	*Salmonella*, per 25 g	5	0	Absent	-	SLS 516 : Part 5
v)	*Listeria monocytogenes*, per 25 g	5	0	Absent	-	SLS 516 : Part 15/ Section 1
vi)	Yeast count, per g	5	3	50	1×10^2	SLS 1558: Part 1
vii)	Mould count, per g	5	0	Less than 10	-	SLS 1558: Part 1

where,

n is the number of samples to be tested;
c is the maximum allowable number of samples 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.

6.5.2 If claimed as probiotic, the specific named probiotic bacterial count shall not be less than 10^6 cfu/g in the final product up to the date of expiry when determined according to the **ISO 29981**.

6.5.3 The sum of microorganisms constituting the starter culture defined in Clause **3.2** shall be viable, active and shall be not less than 10^7 cfu/g in the final product up to the date of expiry when determined according to the **Part 3** or **4** of **SLS 1558**.

NOTE
Not applicable for thermised/ heat treated yoghurt.

7 PACKAGING

7.1 Yoghurt shall be packaged in clean and dry plastic food grade containers suitable for food use and covered with a plastic lid or aluminum foil.

7.2 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.

8 MARKING AND/ OR LABELLING

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

a) The name of the product as;
   (i) "yoghurt"; or
   (ii) "low-fat yoghurt" or "partially skimmed yoghurt"; or
   (iii) "non-fat yoghurt" or "skimmed yoghurt"; or
   (iv) "fruit yoghurt"; or
   (iv) "flavoured yoghurt"; or
   (v) "jelly yoghurt"; or
   (vi) " drinking yoghurt"; or
   (vii) "thermised yoghurt" or "heat treated yoghurt" or
   (ix) " yoghurt with "x"; or
   (x) "low-fat drinking yoghurt" or "partially skimmed drinking yoghurt"; or
   (xi) "non-fat drinking yoghurt" or "skimmed drinking yoghurt".

b) Brand name or trade mark, if any;
c) Net content, in 'g', 'kg', "ml" or "l";
d) The name and address of the manufacturer and/or distributor in Sri Lanka;
e) Batch or code number or a decipherable code marking;
f) Date of manufacture;
g) Date of expiry;
h) List of ingredients, in descending order of the proportion;
j) Name or INS number of any permitted food additive;
k) Country of origin, in case of imported products;
m) Storage conditions; and
n) Information for use.

NOTE
The words "set" or "stirred" as appropriate may be used in conjunction with the common name.

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

8.3 Any product which contains less than 75 per cent by mass yoghurt shall not be described as yoghurt.

9 SAMPLING

Representative samples of yoghurt shall be drawn according to the method prescribed in Appendix **A.**

10 METHODS OF TEST

Test shall be carried out as specified in **ISO 29981**, **Section 1/ Part 3, Part 5, Section 1/ Part 6, Part 12**, **Part 15/ Section 1**of **SLS 516, SLS 729, Part 1, Part 6, Section 1/ Part 7** and **Part 17** of **SLS 735, Part 1, Part 3, Part 4** of **SLS 1558** and Appendices **B**, **C** and **D** of this Standard.

11 CRITERIA FOR CONFORMITY

The lot shall be declared as conforming to the requirements of this Standard, if the following conditions are satisfied.

11.1 Each container inspected as in **A.5.1** satisfies the packaging and marking and/or labeling requirements.

11.2 Each container tested as in **A.5.2** satisfies the microbiological requirements given in Clauses **6.5.1, 6.5.2** and **6.5.3.**

11.3 Each container examined as in **A.5.3** satisfies the relevant requirements given in Clauses **6.2** and **6.3**.

11.4 The test results of the composite sample examined as in **A.5.4** satisfy the relevant requirements given in Clause **6.4** of this Standard.

APPENDIX A
SAMPLING

A.1 LOT

In any consignment all the packages or containers of the same size and 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 the 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 samples for microbiological analysis shall be drawn first.

A.2.3 The samples shall be protected against adventitious contamination.

A.2.4 The sampling instruments shall be clean and dry and shall not impart any foreign odour or flavor when used. When taking samples for microbiological examination the sampling instruments and containers shall be sterilized.

A.2.5 The samples shall be kept in glass or suitable containers. They shall be clean and dry when used.

A.2.6 The samples shall be stored in such a manner that there will be no deterioration of quality of the material Suitably at a temperature between $0\ ^0$C to $5\ ^0$C .

A.2.7 The samples shall be placed in containers which shall be sealed air-tight after filling and marked with 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 containers to be selected from a lot shall be in accordance with Table **3**.

TABLE 3 - Scale of sampling

No. of containers in the lot (1)	**No. of containers to be selected** (2)
Up to 150	11
151 to 500	12
501 to 1 200	13
1201 to 3 000	15
3001 to 4 500	18
4501 and above	21

A.3.3 The containers 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 FOR MICROBIOLOGICAL ANALYSIS

A.4.1 Samples shall be prepared in accordance with Clause **9.8** of Part **5** of **SLS 393**.

A.4.2 Samples shall be exmined within 24 hours of receipt at the laboratory and shall be held between 0 ^{0}C to 5 ^{0}C until the commencement of testing.

A.5 NUMBER OF TESTS

A.5.1 Each container selected as in **A.3.2** of Table **3** shall be inspected for packaging and marking and/or labeling requirements.

A.5.2 Five sample units shall be selected from the sample units selected as in **A.3.2.** Sample shall be prepared from each unit as per Appendix **B** and tested for microbiological requirements given in Clauses **6.5.1**, **6.5.2** and **6.5.3** of this Standard.

A.5.3 Each of the remaining containers shall be examined for requirements given in Clauses **6.2,** and **6.3**.

A.5.4 Sufficient quantity of material shall be taken from each of the containers examined in **A.5.3** and placed in a container to form a composite sample. The composite sample thus obtained shall be tested for the requirements given in Clause **6.4** of this Standard.

APPENDIX B
DETERMINATION OF MILK SOLIDS NON FAT

B.l INTRODUCTION

The amount of milk solids other than fat (MSNF) can be calculated approximately from individual constituents such as the protein, casein, calcium and lactose. The subtraction from the constituent when present from other sources (eg: calcium alginate, added lactose is however usually difficult to assess).

This method employs the formal titration which is one of the simplest for assessing MSNF content. It has been shown that the result obtained is not affected by the presence of wheat flour and gelatine in the product.

B.2 REAGENTS

B.2.1 *Phenolphthalein indicator solution*

B.2.2 *Sodium hydroxide*, C (NaOH) = 0.100 mol/l

B.2.3 *Formaldehyde*, 40 per cent (V/V)

B.3 PROCEDURE

B.3.1 Weigh, to the nearest milligram, about 10 g of the prepared sample into a porcelain dish. Add 1 ml of phenolphthalein **(B.2.1)** and titrate with sodium hydroxide **(B.2.2)** until a faint pink colour is obtained.

Add 3.00 ml of formaldehyde solution **(B.2.3)** to the neutralized yogurt, mix with a glass rod and titrate with the sodium hydroxide using phenolphthalein as the indicator (V_1).

B.3.2 Carry out a blank titration, by titrating 3.00 ml of formaldehyde solution **(B.2.3)** to neutrality (V_2).

B.4 CALCULATION

Milk solids, non fat, per cent by mass = $5.67 (V_1 - V_2)$

where,

V_1 is the volume, in ml, of the sodium hydroxide solution used in **B.3.1;** and

V_2 is the volume, in ml, of the sodium hydroxide solution used in **B.3.2.**

APPENDIX C
DETERMINATION OF pH

C.1 PROCEDURE

pH shall be determined using a pH meter preferably with a glass electrode.

APPENDIX D
DETERMINATION OF ADDED SUGAR

D.1 DETERMINATION OF TOTAL SUGAR AS SUCROSE

Determine the total sugar content (m_1) as sucrose as per **SLS 735: Part 6** and read the value as invert sugar using the Table **4** given below.

D.2 DETERMINATION OF LACTOSE

Weigh 10-12 g of sample in to a 250-ml volumetric flask, dilute with 200 ml hot water and allow to stand for at least 30 min, Cool, add 4 ml of zinc acetate solution, mix and add 4 ml of potassium ferrocyanide solution (range of same concentration as for determination of sucrose above). Dilute to the mark, filter and determine the lactose by Lane and Eynon's method using 25 ml of mixed Fehling's solution and read the value as invert sugar using the Table **5** given below.

The result shall be calculated as hydrated lactose. The correction for the volume of precipitate which shall be deducted from the total 250 ml is similar to that given for condensed milk above. Vieth's ratio applies to condenser milk as for liquid milk.

D.3 CALCULATION

Added sugar as sucrose per cent = total sugar as sucrose (m_1) – lactose (m_2) determine as determine as **D.1** **D.2**

TABLE 4 Invert sugar table for 10 ml Fehling's solution

ml of sugar solution required	Solutions containing besides invert sugar									
	No sucrose		1 g sucrose per 100 ml		5 g sucrose per 100 ml		10 g sucrose per 100 ml		25 g sucrose per 100 ml	
	Invert sugar Factor*	mg invert sugar per 100ml	Invert sugar Factor*	mg invert sugar per 100ml	Invert sugar Factor*	mg invert sugar per 100ml	Invert sugar Factor*	mg invert sugar per 100ml	Invert sugar Factor*	mg invert sugar per 100ml
15	50.5	336	49.9	333	47.6	317	46.1	307	43.4	289
16	50.6	316	50.0	312	47.6	297	46.1	288	43.4	271
17	50.7	298	50.1	295	47.6	280	46.1	271	43.4	255
18	50.8	282	50.1	278	47.6	264	46.1	256	43.3	240
19	50.8	267	50.2	264	47.6	250	46.1	243	43.3	227
20	50.9	254.5	50.2	251.0	47.6	238.0	46.1	230.5	43.2	216
21	51.0	242.9	50.2	239.0	47.6	226.7	46.1	219.5	43.2	206
22	51.0	231.8	50.3	228.2	47.6	216.4	46.1	209.5	43.1	196
23	51.1	222.2	50.3	218.7	47.6	207.0	46.1	200.4	43.0	187
24	51.2	213.3	50.3	209.8	47.6	198.3	46.1	192.1	42.9	179
25	51.2	204.8	50.4	201.6	47.6	190.4	46.0	184.0	42.8	171
26	51.3	197.4	50.4	193.8	47.6	183.1	46.0	176.9	42.8	164
27	51.4	190.4	50.4	186.7	47.6	176.4	46.0	170.4	42.7	158
28	51.4	183.7	50.5	180.2	47.7	170.3	46.0	164.3	42.7	152
29	51.5	177.6	50.5	174.1	47.7	164.5	46.0	158.6	42.6	147
30	51.5	171.7	50.5	168.3	47.7	159.0	46.0	153.3	42.5	142
31	51.6	166.3	50.6	163.1	47.7	153.9	45.9	148.1	42.5	137
32	51.6	161.2	50.6	158.1	47.7	149.1	45.9	143.4	42.4	132
33	51.7	156.6	50.6	153.3	47.7	144.5	45.9	139.1	42.3	128
34	51.7	152.2	50.6	148.9	47.7	140.3	45.8	134.9	42.2	124
35	51.8	147.9	50.7	144.7	47.7	136.3	45.8	130.9	42.2	121
36	51.8	143.9	50.7	140.7	47.7	132.5	45.8	127.1	42.1	117
37	51.9	140.2	50.7	137.0	47.7	128.9	45.7	123.5	42.0	114
38	51.9	136.6	50.7	133.5	47.7	125.5	45.7	120.3	42.0	111
39	51.0	133.3	50.8	130.2	47.7	122.3	45.7	117.1	42.9	107
40	52.0	130.1	50.8	127.0	47.7	119.2	45.6	114.1	41.8	104
41	52.1	127.1	50.8	123.9	47.7	116.3	45.6	111.2	41.8	102
42	52.1	124.2	50.8	121.0	47.7	113.5	45.6	108.5	41.7	99
43	52.2	121.4	50.8	118.2	47.7	110.9	45.5	105.8	41.6	97
44	52.2	118.7	50.9	115.6	47.7	108.4	45.5	103.4	41.5	94
45	52.3	116.1	50.9	113.1	47.7	106.0	45.4	101.0	41.4	92
46	52.3	113.7	50.9	110.6	47.7	103.7	45.4	98.7	41.4	90
47	52.4	111.4	50.9	108.2	47.7	101.5	45.3	96.4	41.3	88
48	52.4	109.2	50.9	106.0	47.7	99.4	45.3	94.3	41.2	86
49	52.5	107.1	51.0	104.0	47.7	97.4	45.2	92.3	41.1	84
50	52.5	105.1	51.0	102.0	47.7	95.4	45.2	90.4	41.0	82

*mg of invert sugar corresponding to 10 ml of Fehling's solution.

TABLE 5 Invert sugar table for 25 ml Fehling's solution

ml of sugar solution required	Solutions containing besides invert sugar			
	No sucrose		1 g sucrose per 100 ml	
	Invert sugar Factor*	mg invert sugar per 100ml	Invert sugar Factor*	mg invert sugar per 100ml
15	123.6	824	122.6	817
16	123.6	772	122.7	767
17	123.6	727	122.7	721
18	123.7	687	122.7	682
19	123.7	651	122.8	646
20	123.8	619.0	122.8	614.0
21	123.8	589.5	122.8	584.8
22	123.9	563.2	122.9	558.2
23	123.9	538.7	122.9	534.0
24	124.0	516.7	122.9	512.1
25	124.0	496.0	123.0	492.0
26	124.1	477.3	123.0	473.1
27	124.1	459.7	123.0	455.6
28	124.2	443.6	123.1	439.6
29	124.2	428.3	123.1	424.4
30	124.3	414.3	123.1	410.4
31	124.3	401.0	123.2	397.4
32	124.4	388.7	123.2	385.0
33	124.4	377.0	123.2	373.4
34	124.5	366.2	123.3	362.6
35	124.5	355.8	123.3	352.3
36	124.6	346.1	123.3	342.5
37	124.6	336.8	123.4	333.5
38	124.7	328.1	123.4	324.7
39	124.7	319.7	123.4	316.4
40	124.8	311.9	123.4	308.6
41	124.8	304.4	123.5	301.2
42	124.9	297.3	123.5	294.1
43	124.9	290.5	123.5	287.3
44	125.0	284.1	123.6	280.9
45	125.0	277.9	123.6	274.7
46	125.1	272.0	123.6	268.7
47	125.1	266.3	123.7	263.1
48	125.2	260.8	123.7	257.7
49	125.2	255.5	123.7	252.5
50	125.3	250.6	123.8	247.6

*mg of invert sugar corresponding to 25 ml of Fehling's solution.

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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.*

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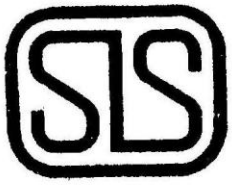

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SRI LANKA STANDARDS INSTITUTION

The Sri Lanka Standards Institution (SLSI) is the National Standards Organization of Sri Lanka established under the Sri Lanka Standards Institution Act No. 6 of 1984 which repealed and replaced the Bureau of Ceylon Standards Act No. 38 of 1964. The Institution functions under the Ministry of Science & Technology.

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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