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SPECIFICATION FOR SHAVING CREAMS
(*First Revision*)

SRI LANKA STANDARDS INSTITUTION

Sri Lanka Standard
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SLS 796:2021

Gr. 8

SRI LANKA STANDARDS INSTITUTION
17, Victoria Place
Elvitigala Mawatha
Colombo 8
Sri Lanka

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

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SPECIFICATION FOR SHAVING CREAMS
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FOREWORD

This Standard was approved by the Sectoral Committee on Chemicals and Polymer Technology and was authorized for adoption and publication as a Sri Lanka Standard by the Council of the Sri Lanka Standards Institution on 2021-09-01

Shaving creams of lather type are basically soaps composed of Sodium and potassium stearates, mixed with water and glycerol to give a creamy soft texture. Non-lather (brushless) shaving creams are essentially oil-in-water emulsions. They usually consist of' mineral oil emulsified in water with a stearate soap containing an excess of stearic acid.

It is necessary that the raw materials used are such that at concentrations in which they are present in shaving creams and after interaction with the other raw materials, they are free from harmful effects

This Sri Lanka Standard was first published in the year 1987. In this First Revision, requirements for heavy metals, microbiological limits and test method for determination of water content and lather volume have been revised. Additionally, assurance of the safety of the final product formulation was included. For safety evaluation of the final product formulation, it shall be the responsibility of the manufacturers of shaving cream to satisfy themselves with proven evidence for the safety of the formulation before releasing the product for sale.

This Specification is subject to the restrictions imposed under the applicable State Legislative requirements.

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

All standard values in this Specification are in SI units.

In the preparation of this Standard, the assistance derived from the following publication is gratefully acknowledged.

ISO 17516:2014	Cosmetics – Microbiology – Microbiological limits
IS 9740:2018	Shaving cream - Specification
IFRA	Standard for fragrances published by the International Fragrances Association

1 SCOPE

1.1 This Specification prescribes the requirements and methods of sampling and test for shaving creams of both lather type and non-lather (brushless) type.

1.2 It does not cover all types of aerosols, foams, gels and shaving oils used for shaving.

1.3 This Specification does not cover products, which do not qualify under the criteria for "cosmetics" on evaluation by the local regulatory authority. (See **5.2.12** of **SLS 1587**).

2 REFERENCES

ISO/TR 17276	Cosmetics - Analytical approach for screening and quantification methods for heavy metals in cosmetics
ISO/TR 18811	Cosmetics - Guidelines on the stability testing of cosmetic products
SLS 102	Rules for rounding off numerical values
SLS 351	Rectified spirit
SLS 457	Cosmetics- Classification of raw materials Part 1: Substances permitted subject to restrictions and permitted colourants, preservatives and UV filters Part 2: Prohibited substances
SLS 1349	Method for the enumeration and detection of aerobic mesophilic bacteria in cosmetics
SLS 1350	Method for the detection of *Pseudomonas aeruginosa*
SLS 1351	Method for the detection of *Staphylococcus aureus*
SLS 1445	Method for the enumeration of yeast and mould in cosmetics
SLS 1488	Method for the detection of *Candida albicans* in cosmetics
SLS 1489	Method for the detection of E*scherichia coli* in cosmetics
SLS 1587	Cosmetics - Packaging and labeling
SLS ISO 22716	Guidelines on good manufacturing practices for cosmetics

3 DEFINITIONS

3.1 **cosmetic**: Any substance or preparation intended to be placed in contact with the external parts of the human body or with the teeth and the mucous membranes of the oral cavity with a view exclusively or mainly for cleaning them, perfuming them, changing their appearance and or correcting body odours and or protecting or keeping them in good condition without affecting the body’s structure or function

4 TYPES

Shaving creams shall be of the following types:

4.1 Type 1; Lather (to be used with a brush); and

4.2 Type 2: Non-lather (brushless).

5 REQUIREMENTS

5.1 General requirements.

5.1.1 **S**having cream shall be manufactured, packaged and stored by a process adhering to good manufacturing practices (GMP) in compliance with **SLS ISO 22716**.

5.1.2 Shaving cream shall meet performance and specifications for the complete duration of the declared shelf life. The date of expiry / best before / shelf life of the finished product shall be determined based on the results of the stability tests as per the Guideline **ISO/TR 18811**.

5.1.3 It shall be the responsibility of the manufacturer to provide evidence for assessment of safety on human health in the final product formulation before releasing the product for sale. Results of safety assessments/such studies shall be produced, whenever required.

5.1.4 ***Consistency***

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The product shall have a soft texture and a uniform consistency. It shall be white or pigmented and of uniform colour. It should be easily applied and free from any objectionable odour.

5.1.5 ***Homogeneity***

Shaving cream shall be in the form of homogeneous mass in the package at 27±2 ^{o}C.

5.2 Raw materials

5.2.1 The raw materials used shall comply with the provisions of **Part 1 and Part 2 of SLS 457**.

5.2.2 The fragrances used shall comply with the Standards for fragrances published by the International Fragrances Association (IFRA).

5.3 Other requirements

5.3.1 The product shall comply with the requirements given in Table **1** when tested according to the relevant methods given in Column (**5**) of the table.

TABLE 1 - Requirements for shaving creams

SL NO	Characteristic	Requirements for		Method of test
		Type 1	Type 2	
(1)	(2)	(3)	(4)	(5)
i)	Non-volatile matter at 105°C, per cent by mass, min.	40	25	Appendix B
ii)	Water content, per cent by mass, max.	60	75	Appendix C
iii)	Lather volume, ml, min.	100	-	Appendix D
iv)	Free caustic alkali	To pass the test	To pass the test	Appendix E
v)	Stability	To pass the test	To pass the test	Appendix F
vi)	pH at 27 ± 2 ^{0}C	5.0-10.0	5.0-10.0	Appendix G

5.4 Microbiological limits

5.4.1 The product shall also comply with the microbiological limits given in Table 2, when tested according to the relevant methods given in Column (4) of the table.

TABLE 2 - Microbiological limits for shaving cream

Sl. No.	Test	Limit	Method of test
(1)	(2)	(3)	(4)
i)	Total aerobic mesophilic microorganisms (Including bacteria, yeast and mould), CFU, per g or mL, max.	100	**SLS 1349** **SLS 1445**
ii)	*Pseudomonas aeruginosa*	Absent in 1 g or 1 mL	**SLS 1350**
iii)	*Staphylococcus aureus*	Absent in 1 g or 1 mL	**SLS 1351**
iv)	*Candida albicans*	Absent in 1 g or 1 mL	**SLS 1488**
v)	*Escherichia coli*	Absent in 1 g or 1 mL	**SLS 1489**

5.5 Limits for heavy metals

5.5.1 The product shall also comply with the heavy metals limits given in Table **3** when tested in accordance with **ISO /TR 17276.**

TABLE 3 – Heavy metals limits

Sl. No. (1)	**Test** (2)	**Limit** (3)
i)	Lead (as Pb), mg/kg, max.	10
ii)	Arsenic (as As), mg/kg, max.	3
iii)	Mercury (as Hg), mg/kg, max.	1
iv)	Cadmium (as Cd), mg/kg, max.	3

6 PACKAGING AND LABELLING

The product shall be packaged and marked as follows and it shall also comply with **SLS 1587**.

6.1 Packaging

The product shall be packed in collapsible tubes or other appropriate package made up of material which shall not corrode or deteriorate during normal conditions of storage and use. The tubes shall be properly closed and shall have a leak-proof cap. Each tube shall be contained in a suitable package.

6.2 Labelling

6.2.1 The following information shall be legibly and indelibly marked on the each pack (tube and package):

a) Name and type as “Lather or Non lather”;
b) Name and address of the manufacturer including country of origin (**NOTE:** *Name and address of the manufacturer and the distributor should be marked on imported products*);
c) Registered trade mark, if any;
d) Brand name, if any;
e) Net content in grams, or volume in milliliters;
f) Batch or lot identification number in code or otherwise;
g) Date of manufacture;
h) Best before / shelf life;
j) List of ingredients; and
k) Instruction for use where necessary.

6.2.2 If primary packages (tubes) are packed in a secondary package (carton) each secondary package shall be legibly and indelibly marked with the following:

a) Name and type as "Lather or Non lather";
b) Name and address of the manufacturer including country of origin (**NOTE**: Name and address of the manufacturer and the distributor should be marked on imported products);
c) Batch or lot identification number in code or otherwise;
d) Registered trade mark, if any; and
e) Number of packs.

7 SAMPLING

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

8 METHODS OF TEST

8.1 Tests shall be carried out as prescribed in Appendices **B** to **G** of this Specification and **SLS 1349, SLS 1350, SLS 1351, SLS 1445, SLS 1488, SLS 1489** and **SLS ISO/TR 17276**.

8.2 Unless otherwise stated, only reagents of analytical grade and only distilled water shall be used during the analysis.

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 Specification is to be assured based on manufacturer's control systems coupled with Type Tests and Testing Procedures appropriate schemes of sampling and inspection shall be adopted.

A.1 LOT

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

A.2 SCALE OF SAMPLING

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

A.2.2 The number of primary packages (tubes) to be selected from the lot shall be in accordance with Table **3.**

TABLE 3 – Scale of Sampling

No of primary packages (tubes) in the lot **(1)**	No of primary packages (tubes) to be selected **(2)**
Up to 3 200	13
3 201 to 35 000	20
35 001 and above	32

A.2.3 If primary packages (tubes) are packed in secondary packages (cartons), 10 per cent of the secondary packages (cartons) subject to a minimum of five (05) secondary packages (cartons) shall be selected from the lot and as far as possible an equal number of primary packages (tubes) shall be drawn from each secondary package (carton) so selected, to form a sample as in **A.2.2**.

A.2.4 The secondary packages (cartons) and primary packages (tubes) 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.3 NUMBER OF TESTS

A.3.1 Each primary package (tube) selected as in **A.2.2** shall be inspected for packaging and marking requirements specified in Clauses **6.1**, and **6.2.1**.

A.3.2 Each secondary package (carton) selected as in **A.2.3** shall be examined for packaging and marking requirements specified in Clauses **6.1**, and **6.2.2**.

A.3.3 Two primary packages (tubes) shall be drawn from the primary packages (tubes) selected as in **A.2.2** and tested for stability requirement specified in SI no. **v** in Table **1** of Clause **5.3.1**.

A.3.4 A sufficient amount of material shall be taken under aseptic conditions from unopened primary package/s (tube/s), having minimum of 50g selected as in **A.2.2** and mixed to form a composite sample. The composite sample thus obtained shall be tested for microbiological requirements specified in Clause **5.4**.

A.3.5 A sufficient amount of material shall be taken from remaining primary package (tube) selected as in **A.2.2** and mixed to form a composite sample. The composite sample thus obtained shall be tested for non-volatile matter (SI no. **i**), water content (SI no. **ii**), lather volume (SI no. **iii**), free Caustic alkali (SI no. **iv**) and pH (SI no. **vi**) in Table **1** of Clause **5.3.1**.

A.3.6 A sufficient amount of material shall be taken from remaining primary package (tube) selected as in **A.2.2** and mixed to form a composite sample. The composite sample thus obtained shall be tested for heavy metals specified in Clause **5.5**.

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 primary package (tube) inspected as in **A.3.1** shall satisfy the relevant requirements.

A.4.2 Each secondary package (carton) inspected as in **A.3.2** shall satisfy the relevant requirements.

A.4.3 The primary packages (tubes) tested as in **A.3.3** shall satisfy the relevant requirements.

A.4.4 The test result on the composite samples tested as in **A.3.4**, **A.3.5** and **A.3.6** shall satisfy the relevant requirements

APPENDIX B
DETERMINATION OF NON VOLATILE MATTER AT 105 ^{O}C

B.1 PROCEDURE

Weigh, to the nearest 1 mg, approximately 5 g of the material in a tared evaporating dish and heat on a steam-bath until most of the volatile matter has escaped. Continue heating at 105 ±2 ºC in an oven for 2 hours. Cool in a desiccator and weigh. Repeat heating, cooling, and weighing until the difference in mass between two successive weighing does not exceed 1 mg.

B.2 CALCULATION

Non-volatile matter at 105 ºC, per cent by mass = $\frac{m_2 - m_3 \times 100}{m_1 - m_3}$

where,

m_1 is the mass, in grams, of the dish with the sample before heating;
m_2 is the mass, in grams, of the dish after heating; and
m_3 is the mass, in grams, of the empty dish.

APPENDIX C
DETERMINATION OF WATER CONTENT

C.1 APPARATUS

The apparatus given in Figure **1** consists of the following parts

a) **Flask**, 500 ml capacity, made of hard resistant glass;

b) **Trap**, the cylindrical portion of the receiving tube is 146 mm to 156 mm in length, graduated to contain a volume of 10 ml and is subdivided into 0.1 ml divisions, each 1 ml line being numbered from10 ml at the top. The error in any indicated capacity should be greater than 0.05 ml; and

c) **Condenser**, approximately 400 mm in length and the bore bore diameter of the inner

tube of the condenser is 16 mm to 17 mm. The condenser is connected to the trap as shown in the Figure **1**.

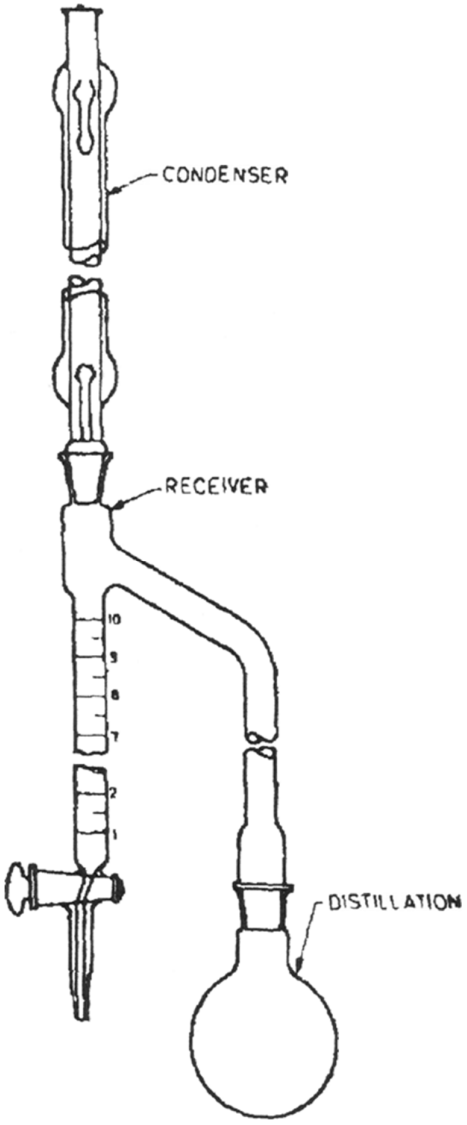


FIGURE 1- Apparatus for determination of water content

C.2 REAGENTS

C.2.1 **Toluene**, treated with excess of water and distilled.

C.3 PROCEDURE

Weigh to the nearest 0.1 g approximately 10 g of the material into the flask. Add about 200 ml of toluene and a few pieces of dry pumic stone. Connect the apparatus and fill the receiving end of the trap with toluene, poured through the top of the condenser. Heat the flask gently for 15 min. and then the toluene begins to boil, reflux at a rate of 2 drops per second until most of the water has passed over. Then increase the rate to about 4 drops per second. When all the water has apparently distilled, rinse the inside of the condenser tube with toluene while brushing down the tube with a tube brush attached to a copper wire and saturated with toluene.

Continue the distillation for 5 min, then remove the source of heat, and allow the receiving tube to cool to room temperature. If any droplets of water are seen adhering to the wall of the receiving tube, scrub down with a brush consisting of a rubber band wrapped around a copper wire and wetted with the toluene. When the water and toluene have separated, read the volume of water.

C.4 CALCULATION

Water content, percent by mass = $\frac{V \times d \times 100}{m}$

where,

V is the volume of water, in milliliters, at room temperature collected in the receiving tube;
d is the density of water, at room temperature; and
m is the mass, in grams, of the material taken for the test.

APPENDIX D
DETERMINATION OF LATHER VOLUME

D.1 APPARATUS

D.1.1 Graduated cylinder, of 250-ml capacity with 2 ml divisions, overall height about 35 cm and the height of the graduated portion about 20 cm.

D.1.2 Graduated cylinder, with graduations from 0 to 100 ml, with 1ml divisions.

D.1.3 Thermometer, of range 0 to 110 ^{o}C

D.2 PROCEDURE

D.2.1 Weigh, to the nearest 1 mg, approximately 5 g of the material in a 100-ml glass beaker. Add 10 ml of water, cover the beaker with a watch glass and allow to stand for 30 minutes (see Note). This operation is carried out to disperse the shaving cream.

NOTE: *Ensure that the material is completely dispersed. Warm the cylinder in hot water (maximum of* 60 ^{o}C), *if necessary.*

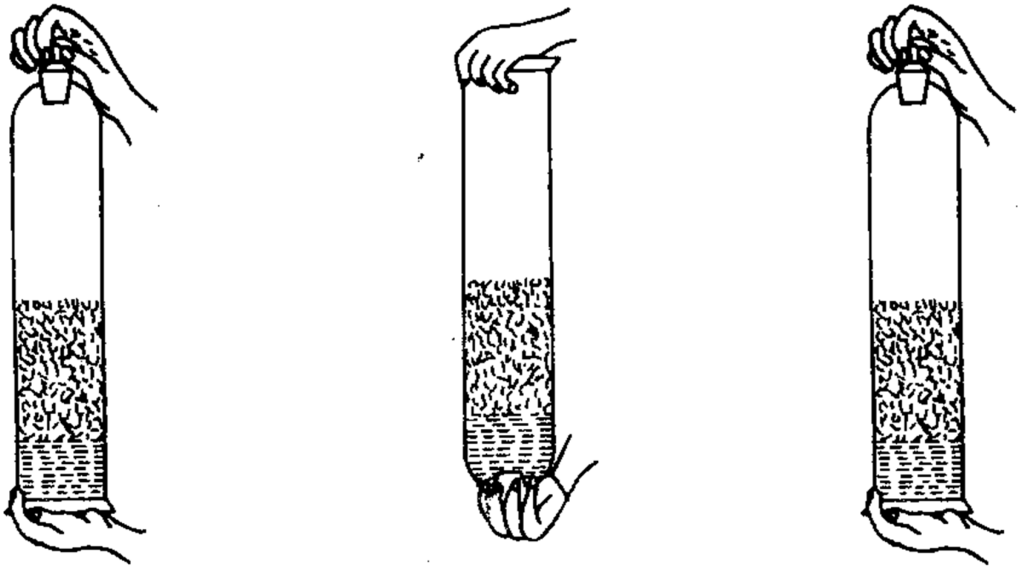
D.2.2 Stir the contents of the beaker with a glass rod and transfer the slurry to the 250-ml graduated cylinder, ensuring that not more than 2 ml foam is produced and no lumpy paste goes into the cylinder. Repeat the transfer of the residue left in the beaker with further portions of 20 ml of water ensuring that all the matter in the beaker is transferred to the cylinder. Adjust the contents in the cylinder to 75 ml by adding sufficient water. Bring the contents of the cylinder to 30 ^{o}C. Stir the contents of the cylinder with a glass rod or thermometer to ensure a uniform suspension. As soon as the temperature of the contents of the cylinder reaches 30 ^{o}C, stopper the cylinder and give it 12 complete shakes, each shake comprising movements shown in Figure **2** in a vertical plane upside down and vice versa. After the 12 shakes have been given, allow the cylinder to stand for 5 minutes and read the volumes as shown in Figure **3**.

D.3 CALCULATION

Lather volume, in milliliters = $V_1 - V_2$

where,

V_1 is the volume, in milliliters, of lather (foam) plus water; and
$V2$ is the volume, in milliliters, of water.



Initial position stopper up

Intermediate position stopper down

Final position stopper up

FIGURE 2 - One complete shake of cylinder

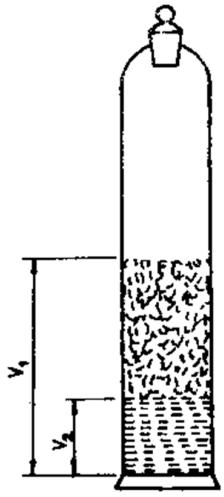


FIGURE 3- Measurement of foam

APPENDIX E
TEST FOR FREE CAUSTIC ALKALI

E.1 REGENTS

E.1.1 Rectified sprit, conforming to **SLS 351**.

E.1.2 Phenolphthalein indicator solution, dissolve 1 g of phenolphthalein in 100 ml of rectified spirit.

E.2 PROCEDURE

Dissolve 1 g of the material in 100 ml of rectified spirit by warming, if necessary. Cool and add a few drops of phenolphthalein indicator (**E.l.2**) and observe the colour of the solution. The material shall be taken to have passed the test if no pink colouration is developed.

APPENDIX F
TEST FOR STABILITY

F.1 PROCEDURE

F.1.1 Keep the material in tube at 40 ± 1 °C for 24 hours. Press the tube and take about 10 g of the cream. On visual examination, the cream shall not show any separation of water or oil phase.

F.1.2 Keep the material in tube at 10 + 1 °C for 24 hours. After taking out press the tube, the cream shall be found extrudable from the tube.

APPENDIX G
DETERMINATION OF pH

G.1 APPARATUS

A pH meter, preferably equipped with a glass electrode.

G.2 PROCEDURE

G.2.1 For oil in water emulsion creams

Weigh to the nearest 0.1 g, approximately 5 g of the material into a 100-ml beaker. Add 45 ml of water and disperse the cream in it. Determine the pH of the suspension at 27 ±2 ℃ using the calibrated pH meter.

G.2.2 For water in oil emulsion cream

Weigh to the nearest 0.1 g, approximately 10 g of the material and add 90 ml of rectified spirit

previously adjust to pH 6.5 to 7.0. Warm if necessary, to 45 ^{o}C and stir thoroughly for 15 min. Filter the alcoholic layer through a filter paper and measure the pH of the filtrate at 27 ±2 °C using the calibrated pH meter.

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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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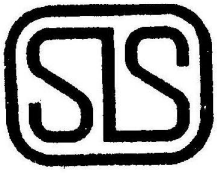

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SRI LANKA STANDARDS INSTITUTION

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