

SRI LANKA STANDARD 495:1981

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**METHODS OF
SAMPLING COSMETICS AND
TOILET PREPARATIONS**

BUREAU OF CEYLON STANDARDS

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COSMETICS AND TOILET PREPARATIONS

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This Standard does not purport to include all the necessary provisions of ~~the Standard~~.

SRI LANKA STANDARD
METHODS OF SAMPLING
COSMETICS AND TOILET PREPARATIONS

FOREWORD

This Sri Lanka Standard was authorized for adoption and publication by the Council of the Bureau of Ceylon Standards on 1981-01-29, after the draft, finalized by the Drafting Committee on Cosmetics had been approved by the Chemicals Divisional Committee.

This standard covers the methods of sampling cosmetics and toilet preparations at the place of manufacture, as well as the methods for the selection and preparation of test samples from packages of cosmetics and toilet preparations. It is intended to facilitate the introduction of uniform methods for sampling cosmetics and toilet preparations. It is hoped that the standard will bring about a closer understanding between the cosmetics and toilet goods industry on the one hand and the various purchasing agencies and testing laboratories in the country on the other.

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 test shall be rounded off in accordance with

CS 102. The number of significant places retained in the rounded off values should be the same as that of the specified value in this standard.

The considerable assistance gained from the publications of the Indian Standards Institution in the preparation of this standard is gratefully acknowledged.

1 SCOPE

1.1 This standard prescribes methods of sampling cosmetics and toilet preparations.

1.2 Should any inconsistency exist between the requirements of this standard and the standard for an individual material, the latter shall prevail.

2 TERMINOLOGY

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

2.1 **acceptable quality level (AQL):** A designated value of per cent defective items that will be accepted most of the times (approximately 95 times out of 100) by operation of the sampling plan.

2.2 **composite sample:** A sample prepared by mixing equal quantities of material from each of the gross samples in a lot and intended to represent fully the lot as a whole.

2.3 **cosmetics and toilet preparations:** Under the Cosmetics, Devices and Drugs Law of Sri Lanka, cosmetics have been defined as follows:

"Any substance or mixture of substances manufactured, sold or represented for use in cleansing, improving

* CS 102 Presentation of numerical values.

or altering the complexion, skin, hair or teeth and includes deodorants and perfumes".

2.4 gross sample: A sample prepared by mixing the part or whole of the material from some or all of the units in a package and intended to fully represent the package.

2.5 individual sample: A sample obtained from a gross sample representing a package and intended for determining the specified characteristics of the material in the package.

2.6 sample: A portion of a material selected in such a way that it represents all the characteristics of the material from which it is taken.

2.7 sampling procedure: The succession of steps set out in this standard to ensure that the sample possesses the essential characteristics of the bulk.

2.8 test sample: A smaller sample prepared in a specified manner by subdivision of the gross sample. It has the essential characteristics of the gross sample.

3 CLASSIFICATION

3.1 For the purpose of this standard, cosmetics and toilet preparations shall be classified under three main groups, namely, solids, semi-solids and liquids. They shall be further subdivided as indicated in Table 1.

TABLE 1 - Classification of cosmetics and toilet preparations
(3.1)

Main group (1)	Sub-group (2)	Typical examples (3)
Solids	(Powders ((Sticks or cakes (Skin powders, face powders, tooth powders. Compressed make-ups, hair dyes, lipsticks and salves and solid dentifrices.
Semi-solids	(Thick emulsions ((Pastes (solid/ (liquid dispersions)	Depilatories, face creams, hair creams and dressings. Liquid make-ups, shaving creams and toothpastes.
Liquids	(Homogeneous liquids ((((Thin emulsions	After-shave lotions, eye lotions, hair oils and tonics, liquid brilliantines, nail polishes and varnishes, shampoos, toilet waters and perfumes. Face and hand lotions, hair darkeners and dressings.

4 GENERAL REQUIREMENTS OF SAMPLING

4.1 In drawing, preparing, storing and handling samples, the following precautions and directions shall be observed:

4.1.1 Samples shall be taken in a protected place not exposed to damp air, dust or soot.

4.1.2 The sampling instrument shall be clean and dry, and when samples are taken for microbiological purposes, sampling instruments shall be sterile and samples shall be placed in sterile containers.

4.1.3 The samples, the material being sampled, the sampling instrument and the containers for samples shall be protected from adventitious contamination.

4.1.4 The samples shall be placed in clean and dry glass containers. The sample containers shall be of a size such that they are almost completely filled by the sample.

4.1.5 Each container shall be sealed air-tight after filling and marked with full details of sampling, batch or code number, name of manufacturer and other important particulars of the consignment.

4.1.6 The samples shall be stored in such a manner that the temperature of the material does not vary unduly from the normal temperature and they are protected from light.

4.1.7 Sampling shall be done by a person agreed to between the purchaser and the supplier and in the presence of the purchaser or his representative and the supplier or his representative.

5 SAMPLING DURING MANUFACTURE

The sampling procedure at the point of manufacture shall consist essentially in drawing samples of the finished product from the top, middle and bottom portions of the process vessel immediately prior to packing.

5.1 lot

The material in a single mass obtained from the same raw materials and process of manufacture prior to packing shall be regarded as one lot. For instance, the material in a process vessel just before packing may be taken as constituting a lot.

5.2 Scale of sampling

In case of solid units such as sticks and cakes, at least three units shall be selected at random (see 6.2.1). In case of non-solids, at least three samples shall be drawn using appropriate sampling instruments (see 5.3), preferably taking the same number of samples from the top, middle and bottom portions of the lot.

5.3 Sampling instruments

Instruments of the types described below may be used for drawing samples of different cosmetics and toilet preparations.

5.3.1 For powders

For drawing samples of powders, a sampling tube, (commonly known as *thief*) shall be used. This usually consists of two closely fitting, concentric tubes with matching slots that are closed by rotating the tubes with respect to each other. The sampling tube with the slots closed, is inserted to

the desired depth in a given process vessel. The slots are then opened, and the material flows through the open slots to fill the tube. The slots are then closed and the tube is withdrawn.

5.3.2 *For thick emulsions, pastes and gels*

For drawing samples of these products, a sampling instrument similar to that described under 5.3.1 may be used. However, the top end of the sampling tube should be connected to a suction device.

5.3.3 *For homogeneous liquids and thin emulsions*

For drawing samples of these products, a simple device may be used consisting of a small bottle and a two-hole stopper, one hole being fitted with a short glass tube and the other with a glass tube slightly longer than the depth of the vessel. To the longer tube is attached a stop-cock which is kept closed while the bottle is lowered to the desired depth in a given process vessel. The stop-cock is then opened and, as the air escapes through the longer tube, the product enters the bottle and fills it. An alternative sampling device consists of a tube fitted with a stopper and the lower end which can be closed by means of an attached rod that extends above the upper end of the tube. With the stopper disengaged, the tube is lowered slowly into the vessel so that the liquid enters it with minimum disturbance. When the bottom of the vessel has been reached the lower end of the tube is closed with the stopper and the tube is removed.

5.4 Preparation of samples

The material of all the samples drawn from the lot according to 5.2 shall be disintegrated, if necessary and mixed thoroughly to give the composite sample at the point of manufacture. The material so chosen

shall be in a quantity about 3 times the material required for carrying out a complete series of tests for all the requirements of the specification.

5.5 The composite sample obtained in 5.4 shall be examined for all the requirements of the specification. If it satisfies all the requirements it shall be passed on for packing, otherwise not.

6 SAMPLING OF PACKAGES

The sampling procedure for packages shall consist essentially in selecting and drawing a sufficient number of unit packs.

6.1 Lot

In a single consignment, all the packages containing cosmetics and toilet preparations of the same type and form, representing the same batch of manufacture, shall constitute a lot. If the consignment consists of packages containing cosmetics and toilet preparations of different types or forms of batches of manufacture, then the packages containing products of the same type, form and batch of manufacture shall be grouped together; each group shall constitute a separate lot.

6.2 Scale of sampling

For ascertaining the conformity of a lot to the requirements prescribed in the specifications for individual cosmetics and toilet preparations, tests shall be carried out on each lot separately. The number (n) of packages to be selected for drawing the samples shall depend on the size (N) of the lot in accordance with Table 2.

TABLE 2 - Scale of sampling for packages

No. of packages in the lot N (1)	No. of packages to be selected n (2)
3 to 50	3
51 to 200	4
201 to 400	5
401 to 650	6
651 and above	7

6.2.1 The packages shall be selected at random and to ensure randomness of selection, random number tables shall be used. In case such tables are not available, the following procedure may be adopted:

'Starting from any package, count all the packages in one order as 1, 2, 3, up to r and so on, where r is the integral part of N/n . Every rth package thus counted shall be withdrawn to give a sample for purposes of test'.

6.3 Gross samples

6.3.1 Powders

From each of the packages selected as in 6.2, draw at random one or more containers. The material in the containers so chosen from the package shall be about three times the quantity required for carrying out a complete series of tests for all the requirements of the specification. It shall be disintegrated, if necessary, and mixed thoroughly to give a gross sample.

6.3.2 *Sticks and cakes*

From each of the packages selected as in 6.2, draw at random one or more sticks or cakes. The material so chosen from each package shall be about three times the quantity required for carrying out a complete series of tests for all the requirements of the specification. It shall be disintegrated in a suitable chopper and, after discarding the first and last chippings, the material shall be mixed thoroughly to give a gross sample.

6.3.3 *Thick emulsions, pastes and gels*

From each of the packages selected as in 6.2, draw at random a suitable number of containers and, with the help of a suitable sampling instrument, withdraw the material for the preparation of a gross sample. A simple device for withdrawing semi-solid products from jars consists of a glass tube about 10 mm in diameter and fitted with piston. The piston is pulled out and the tube pressed in the semi-solid product; the tube is then withdrawn and the sample ejected out of it with the help of the piston. The material so drawn from each package shall be about three times the quantity required for carrying out a complete series of tests for all the requirements of the specification. It shall be mixed thoroughly to give a gross sample.

NOTE - In the case of emulsions and pastes, great care is necessary to ensure that there is no breakdown of the product.

6.3.4 *For homogeneous liquids and thin emulsions*

From each of the packages selected as in 6.2, draw at random a suitable number of containers, shake them thoroughly to ensure homogeneity of the contents

and draw samples with the aid of a suitable instrument. The material so drawn from each package shall be about three times the quantity required for carrying out a complete series of tests for all the requirements of the specification. It shall be mixed thoroughly to give a gross sample.

NOTE - In the case of liquid preparations containing alcohol or other volatile ingredients, great care is necessary to ensure that there is no loss by evaporation with resulting change in product make-up.

6.4 Composite and individual samples

6.4.1 Composite sample

Segregate carefully the gross samples obtained from a lot according to 6.2 and 6.3. From each of the gross samples drawn from the same lot, take a small but equal portion of material. Mix all these small portions thoroughly into a single composite mass, which should be of a size sufficient to carry out triplicate testing for all the characteristics specified under 6.5.2. This composite mass representing the lot shall be divided into three equal parts each forming a composite sample; one for the purchaser, another for the supplier and the third as the referee sample to be used in case of dispute between the purchaser and the supplier.

6.4.2 Individual samples

The remaining portion of material in each gross sample shall be divided into three equal parts, each forming an individual sample. One individual sample from each gross sample in the lot shall be taken to constitute a set of individual samples. One set of individual samples shall be for the purchaser, another for the supplier and the third as the referee sample to be used in case of dispute between the purchaser and the supplier.

6.4.3 All the composite and individual samples shall be transferred to separate containers. These containers shall then be sealed air-tight with stoppers, and labelled with full particulars of identification.

6.4.4 Referee samples

The referee samples shall consist of a composite sample and a set of individual samples. All the containers of referee samples shall bear the seals of both the purchaser and the supplier and shall be kept at a place agreed to, between the two parties.

6.5 Number of tests

6.5.1 Tests for the determination of important characteristics, as specified in relevant Sri Lanka Standards for the individual materials, shall be conducted separately on each of the individual samples.

6.5.2 Tests for the determination of the other characteristics prescribed shall be conducted on the composite sample.

6.6 Criteria for conformity

6.6.1 For individual samples

For each of the characteristics which has been determined on the individual samples, the mean \bar{X} and range R of test results shall be calculated as follows :

$$\text{Mean } (\bar{X}) = \frac{\text{The sum of test results}}{\text{Number of test results}}$$

$$\text{Range (R)} = \text{The difference between the maximum and minimum value of the test results}$$

6.6.1.1 If the specification limit for the characteristic is given as a minimum, then the value of the expression $(\bar{X} - KR)$ shall be calculated from the relevant test results (see 6.6.1.4). If the value so obtained is greater than or equal to the minimum limit, the lot shall be declared as conforming to the requirement for that characteristic.

6.6.1.2 If the specification limit for the characteristic is given as a maximum, then the value of the expression $(\bar{X} + KR)$ shall be calculated from the relevant test results (see 6.6.1.4). If the value so obtained is less than or equal to the maximum limit, the lot shall be declared as conforming to the requirement for that characteristic.

6.6.1.3 If the characteristic has a two-sided specification limit, then the values of the expression $(\bar{X} \pm KR)$ shall be calculated from the relevant test results (see 6.6.1.4). If the values so obtained lie between the two specification limits, the lot shall be declared as conforming to the requirement for that characteristic.

6.6.1.4 The value of the factor K referred to in 6.6.1.1 to 6.6.1.3 shall be chosen in accordance with Table 3 depending upon the acceptance quality level.

TABLE 3 - Values of K for different acceptable quality levels

Acceptable quality level (1)	Value of K (2)
Up to 1 per cent	0.6
Over 1 per cent and up to 2 per cent	0.5
Over 2 per cent and up to 4 per cent	0.4

6.6.2 *For composite sample*

For declaring the conformity of the lot to the requirements for all the remaining characteristics determined on the composite sample, the test result for each of the characteristics shall satisfy the relevant requirement specified in the Sri Lanka Standard on the subject.

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.



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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