SRI LANKA STANDARD 592:1982

UDC 632.95:620.11

METHOD FOR SAMPLING OF PESTICIDAL PRODUCTS

BUREAU OF CEYLON STANDARDS

METHOD FOR SAMPLING OF PESTICIDAL PRODUCTS

SLS 592 : 1982

Gr.6

BUREAU OF CEYLON STANDARDS
53, Dharmapala Mawatha,
Colombo 3,
Sri Lanka.

CONSTITUTION OF THE DRAFTING COMMITTEE

CHAIRMAN	*REPRESENTING*
Dr. A. de S. Liyanage	Rubber Research Institute
MEMBERS	
Mrs. Kanthi Amarasinghe	Harrisons & Crossfield (Colombo) Limited
Mr. R.N. Bopearachchi	Chemical Industries Colombo Limited
Miss Padmini de Silva	Department of Minor Export Crops
Prof. H.V.J. Fernando	University of Colombo
Mr. Ranjith Kurukulasooriya	Ceylon Petroleum Corporation
Dr. R. Mahindapala	Coconut Research Board
Dr. R. Malalasekara	A. Baur & Company Limited
Mr. Asoka Somaratne	Tea Research Institute
Mr. H.E. Senanayake	Department of Agriculture
Dr. H.A.P. Senaratne	Ceylon Institute of Scientific and Industrial Research
Mr. Q. Suriaratchie	Haychem Limited
Mr. A. Wettasinghe	Central Agricultural Research Institute
Mr. C.P. Wickramaratne	MacWoods Limited
Dr. R.H. Wickramasinghe	Central Enviornmental Authority
Mr. E.C. Xavier	Lankem Ceylon Limited

TECHNICAL SECRETARIAT

BUREAU OF CEYLON STANDARDS

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

METHOD FOR SAMPLING OF PESTICIDAL PRODUCTS

FOREWORD

This Sri Lanka Standard was authorized for adoption and publication by the Council of the Bureau of Ceylon Standards on 1982-11-24, after the draft, finalized by the Drafting Committee on Pesticides had been approved by the Agricultural and Food Products Divisional Committee.

This standard is intended to supplement the Sri Lanka Standard specifications for pesticides (SLS 466) thereby introducing uniform practices in sampling of pesticidal products.

In the preparation of this standard, valuable assistance derived from "Manual on the use of FAO Specifications for Plant Protection Products" and CIPAC Handbook Volume 1 and Volume 1 A is gratefully acknowledged.

1 SCOPE

This standard prescribes methods of drawing representative test samples of liquid and solid pesticidal products.

2 REFERENCES

SLS 428 Random sampling methods.

SLS 466 Plant protection products.

3 DEFINITIONS

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

3.1 lot: All containers of the same size in a single consignment and of one type of material drawn from a single batch of manufacture shall constitute a lot. If a consignment is declared or known to consist of different batches of manufacture, the batches shall be marked separately and the group of containers of same size in each batch shall constitute separate lots.

3.2 **primary sample:** A small quantity of material taken from a container to represent the material in the container.

3.3 **composite sample:** The quantity of material obtained by combining and mixing the primary samples drawn from any one particular lot.

4 GENERAL REQUIREMENTS OF SAMPLING

In drawing samples, the following directions shall be observed.

4.1 Samples shall not be taken at a place exposed to damp air.

4.2 In every case the sampling shall be done as quickly as possible with due care and the material shall not be exposed any longer than is absolutely necessary.

4.3 Sampling instruments used shall be clean and dry.

4.4 The samples shall be placed in clean, dry and air-tight glass or other suitable containers.

4.5 In the case of material in packages, only unopened packages shall be selected for the purpose of the sample.

4.6 Samples shall not be drawn from part of any quantity which part bears the appearance of having received damage in transit or after delivery.

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

4.8 The sample containers shall be of such a size, that they are almost filled by the sample.

4.9 Each sample container shall be sealed air-tight after filling and marked with the following information:

a) Sample number or other identification mark;

b) Name of the material and its nominal composition;

c) Manufacturer's batch reference number (if available);

d) Date of sampling;

e) Place of sampling;

f) Signature of the person drawing the sample; and

g) Signature of the person or his representative on whose premises the sample was taken.

4.10 Samples shall be stored in the shade.

4.11 Liquid products

The products are formulated in such a manner by the manufacturers as to ensure that they will have an optimum physical state for application under a given set of conditions. On account of the physico-chemical constants of the components, reversible changes may occur under extreme transportation and storage conditions, for example: frost. Before sampling the products, they should be checked to ensure that any such changes they may have undergone, for example: crystallization, separation, have disappeared. Where redissolution of separated components cannot be effected, the temperature of the sample should be recorded and an estimate made of the amount or depth of any deposit remaining. A sample of the deposit should be taken separately.

4.11.1 *Preparation for sampling*

4.11.1.1 If the material appears to be non-homogeneous heat the sample, as per instructions of the manufacturer, to a temperature that will not harm the active ingredient.

4.11.1.2 Shake the package or, if packaged in large containers, agitate the sample.

4.12 Powder products

The products are formulated in such a manner by the manufacturers so as to ensure that they will have an optimum physical state for use under a given set of application conditions. In contrast to liquid products, powder formulations are usually not sensitive to frost, although they are frequently affected by high temperature and moisture. Samples that have been stored in an exposed state for a long time shall not be regarded as representative.

4.12.1 *Preparation for sampling*

Special preparations prior to sampling, such as shaking the sample, are usually not practical.

Since powder (granulated) formulations may undergo mechanical segregation into different particle sizes during transportation and when being transferred to other containers, it may become necessary (especially for dusts and granular products) to divide the quantity of sample required for an analysis by means of coning and quatering method.

5 SAMPLING INSTRUMENTS

The following sampling instruments or any other suitable instrument may be used:

5.1 Deep tube.

5.2 Glass pipette.

6 SCALE OF SAMPLING

6.1 Each lot in a consignment shall be tested separately to ascertain its conformity to the requirements of the relevant specification.

6.2 The number of containers to be selected from a lot shall depend on the size of the lot and the size of the container and shall be in accordance with Table 1.

TABLE 1 - Scale of sampling

Lot size \ Size of the container	A*	B**	C†	D††
	No. of containers to be selected			
Up to 10	05	05	05	All
11 to 20	05	05	05	10
21 to 40	05	05	05	13
41 to 100	05	05	05	16
101 to 500	05	05	20	20
501 to 1 000	05	10	20	30
1 001 to 2 000	10	20	40	40
2 001 to 5 000	20	25	40	40
5 001 and above	25	30	40	40

* *Upto and including 100 g or 100 ml*

** *Above 100 g and upto and including 1 kg or above 100 ml and upto and including 1 l.*

† *Above 1 kg and upto and including 10 kg or above 1 l and upto and including 50 l.*

†† *Above 10 kg and upto and including 50 kg or above 50 l and upto and including 200 l.*

6.3 The containers shall be selected at random. In order to ensure randomness of selection, random number tables as given in SLS 428 shall be used.

7 PRIMARY SAMPLES

7.1 Small portions of material from different parts of each container selected as in **6.2** shall be drawn to represent top, middle and bottom parts of the container, using an appropriate sampling instrument to form a primary sample.

7.2 The minimum size of the primary sample drawn from a container shall be as given in Table 2. The quantity of primary sample drawn shall be sufficient to form the required composite sample.

7.3 As far as possible equal sizes of primary samples shall be drawn from each container selected.

TABLE 2 - Minimum size of primary sample

Size of the container / Type of product	Upto and including 100 g or 100 ml	Above 100 g or 100 ml
Liquid product	each container selected	50 ml
Powder product	- do -	50 g
Granular product	- do -	100 g
Paste product	- do -	100 g

8 COMPOSITE SAMPLE

8.1 Primary samples selected as in **7** shall be mixed together to form a composite sample.

8.2 Minimum size of the required composite sample shall depend on the type of product and the percentage of active ingredient content and shall be as given in the relevant product specification.

NOTE - For plant protection products SLS 466:Part 1 to Part 12 which have been already published, the minimum size of composite sample required is given in Appendix **A**.

8.3 If the selected containers are not sufficient to obtain the required size of the composite sample, more containers shall be drawn at random so as to obtain the required size.

8.4 If the composite sample is much larger than the required size, its size shall be reduced using a method given below.

8.4.1 *For liquid products*

Composite sample shall be transferred to a clean and dry container and mixed thoroughly. Required amount of the sample shall be drawn from the material in the container, using a sampling instrument from different parts of the container to represent top, middle and bottom parts of the container.

8.4.2 *For powder products*

Mix the composite sample thoroughly and spread on a level, clean, hard surface. Flatten it out and divide it into four equal parts. Remove any two diagonally opposite parts. Mix the two remaining parts together to form a cone. Flatten out the cone, and repeat the operation of quartering till a sample of required mass is obtained.

9 TEST SAMPLE AND REFEREE SAMPLE

The composite sample shall be divided into three portions and these three portions shall be transferred into three separate sample containers. One of these samples is analysed by purchaser, one sample by the supplier and the third sample shall be kept at a place agreed to between the purchaser and the supplier to be used in case of dispute between the two.

10 NUMBER OF TESTS

Tests for determination of all the requirements given in the relevant product specification shall be carried out on the composite sample.

APPENDIX A

MINIMUM SIZE OF THE COMPOSITE SAMPLES REQUIRED

A.1 CARBARYL (SLS 466:Part 1)

A.1.1 Carbaryl technical: 300 g.

A.1.2 Carbaryl dusts: 750 g.

A.1.3 Carbaryl dispersible powders: 1500 g.

A.2 TRICHLORFON (SLS 466:Part 2)

A.2.1 Trichlorfon technical: 300 g.

A.2.2 Trichlorfon dusts: 1500 g.

A.2.3 Trichlorfon dispersible powder: 1500 g.

A.2.4 Trichlorfon water miscible solutions: 1500 ml.

A.2.5 Trichlorfon water soluble powders: 1500 g.

A.3 FENTHION (SLS 466:Part 3)

The sizes of the composite samples will be included as soon as methods of analysis are developed.

A.4 PARATHION-METHYL (SLS 466:Part 4)

A.4.1 Parathion-methyl technical: 600 g.

A.4.2 Parathion-methyl technical solutions: Sufficient volume to contain 600 g of parathion-methyl.

A.4.3 Parathion-methyl dusts: 600 g.

A.4.4 Parathion-methyl dispersible powders: 1500 g.

A.4.5 Parathion-methyl solutions: 1500 ml or sufficient to contain 30 g of parathion-methyl whichever is larger.

A.4.6 Parathion-methyl emulsifiable concentrates: 1500 ml.

A.5 SULPHUR (SLS 466:Part 5)

A.5.1 Sulphur dusts: 750 g.

A.5.2 Sulphur dispersible powders: 750 g.

A.5.3 Sulphur aqueous dispersions: 750 g.

A.6 HHDN (ALDRIN PRODUCTS) (SLS 466:Part 6)

A.6.1 HHDN technical: 600 g.

A.6.2 HHDN dusts: 1500 g or sufficient to contain 45 g of HHDN whichever is larger.

A.6.3 HHDN dispersible powders: 750 g or sufficient to contain 75 g of HHDN whichever is larger.

A.6.4 HHDN emulsifiable concentrates: 750 g or sufficient to contain 75 g of HHDN whichever is larger.

A.7 BHC (SLS 466:Part 7)

A.7.1 BHC technical: 300 g.

A.7.2 BHC refined: 300 g.

A.7.3 BHC dusts: 900 g.

A.7.4 BHC dispersible powders: 750 g.

A.7.5 BHC solutions: 1500 ml or sufficient to contain 21 g of BHC.

A.7.6 BHC emulsifiable concentrates: 1500 ml or sufficient to contain 150 g of BHC whichever is larger.

A.8 PARATHION (SLS 466:Part 8)

A.8.1 Parathion technical: 600 g.

A.8.2 Parathion dusts: 1500 g.

A.8.3 Parathion dispersible powders: 1500 g.

A.8.4 Parathion solutions: 1500 ml or sufficient to contain 30 g of parathion whichever is larger.

A.8.5 Parathion emulsifiable concentrates: 1500 ml.

A.9 PROPOXUR (SLS 466:Part 9)

A.9.1 Propoxur technical: 150 g.

A.9.2 Propoxur dusts: 1500 g.

A.9.3 Propoxur dispersible powders: 1500 g.

A.9.4 Propoxur emulsifiable concentrates: 1500 ml.

A.10 CAPTAN (SLS 466:Part 10)

A.10.1 Captan technical: 300 g.

A.10.2 Captan dusts: 1500 g.

A.10.3 Captan dispersible powders: 1500 g.

A.11 DALAPON (SLS 466:Part 11)

A.11.1 Dalapon-Na technical: 600 g.

A.11.2 Dalapon sodium salt water soluble powder: The size of the composite sample will be included as soon as methods of analysis are developed.

A.12 DODINE (SLS 466:Part 12)

The sizes of the composite samples will be included as soon as methods of analysis are developed.

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.*

Printed at SLSI (Printing Unit)

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.

Printed at the Sri Lanka Standards Institution, 17, Victoria Place, Elvitigala Mawatha, Colombo 08.