SRI LANKA STANDARD 466:PART 19:1984
UDC 632.95

SPECIFICATION FOR
PLANT PROTECTION PRODUCTS
PART 19 — DEMETON—S—METHYL

SRI LANKA STANDARDS INSTITUTION

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PART 19 : DEMETON-S-METHYL

SLS 466:Part 19:1984

Gr. 5

SRI LANKA STANDARDS INSTITUTION
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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.

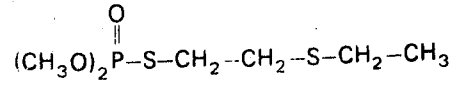
SRI LANKA STANDARD
SPECIFICATION FOR PLANT PROTECTION PRODUCTS
PART 19 : DEMETON-S-METHYL

FOREWORD

This Sri Lanka Standard was authorized for adoption and publication by the Council of the Sri Lanka Standards Institution on 1984-12-20, after the draft, finalized by the Drafting Committee on Pesticides, had been approved by the Agricultural and Food Products Divisional Committee.

Demeton-S-methyl is the common name accepted by the International Organization for Standardization (ISO) for *S*-2-ethylthioethyl *O*, *O*-dimethyl phosphorothioate.

The structural formula is



This specification is based on the FAO Provisional Specification on demeton-S-methyl.

Methods of analysis and miscellaneous techniques referred to in this part have been developed and adopted by Collaborative International Pesticides Analytical Council Limited (CIPAC) and are found in CIPAC Handbook Volume 1 (1970) and Volume 1A (1980).

Information on standard waters for laboratory evaluation of pesticidal formulations will be found in *CIPAC Monograph 1, Standard Waters and an FAO Survey of naturally occurring waters (1972)*, W. Heffer and Sons Limited Cambridge, United Kingdom.

Wherever possible, standards for apparatus and common names for pesticides are those approved by the ISO.

All standard values given in this part are in SI units.

This specification is subject to the provisions of the Control of Pesticides Act No. 33 of 1980, and regulations framed thereunder.

Other essential background information could be obtained from *Manual on the use of FAO Specification for Plant Protection Products.*

1 SCOPE

This part prescribes requirements and methods of sampling and test for demeton-S-methyl technical, demeton-S-methyl technical solutions and demeton-S-methyl emulsifiable concentrates.

2 REFERENCES

SLS 592 Methods for sampling of pesticidal products

SLS ... Code of practice for packaging of pesticides (under preparation)

SECTION 1 - DEMETON-S-METHYL TECHNICAL

3 DESCRIPTION

The material shall consist essentially of demeton-S-methyl and shall be a liquid, free from extraneous materials or added modifying agents.

4 ACTIVE INGREDIENT

4.1 Identity *(CIPAC 1, Method 47.a(S)/1/m/1.4 : see Note 1)*

Where the identity of the material is in doubt, the identity shall be determined.

4.2 Demeton-S-methyl *(CIPAC 1, p.312, Method 47.a(S)/1/M/1.3)*

4.2.1 *Minimum content*

Minimum : 90 per cent, *m/m*

4.2.2 *Declared content*

The demeton-S-methyl content (per cent *m/m*) shall be declared and when determined, the content obtained shall not differ from that declared by more than ± 2 percentage units.

5 PACKAGING

The containers shall comply with the requirements stipulated in SLS ... Code of practice for packaging of pesticides (under preparation)

6 MARKING

The marking on the containers shall be in accordance with the Control of Pesticides Act No. 33 of 1980, and regulations framed thereunder.

SECTION 2 - DEMETON-S-METHYL TECHNICAL SOLUTIONS

7 DESCRIPTION

The material shall consist, essentially of demeton-S-methyl and shall be a colourless or yellow liquid, free from extraneous materials except for the solvent.

8 ACTIVE INGREDIENT

8.1 Identity *(CIPAC 1, Method 47.a(S)/1a/m/1.3, see Note 1)*

Where the identity of the material is in doubt, the identity shall be determined.

8.2 Demeton-S-methyl *(CIPAC 1, p.312, Method 47.a(S)/1/M/1.4)*

8.2.1 *Minimum content*

Minimum : 50 per cent, *m/m*, or equivalent.

8.2.2 *Declared content*

The demeton-S-methyl content shall be declared (per cent *m/m* and/or g/l at 20 °C) and when determined, the content obtained shall not differ from that declared by more than ± 2 percentage units or ± 20 g/l.

9 IMPURITIES

9.1 Acidity or alkalinity *(CIPAC 1, p.903, MT/31.1.1)*

Maximum acidity : 0.35 per cent, calculated as sulphuric acid.

Maximum alkalinity : 0.05 per cent, calculated as sodium hydroxide.

9.2 Water *(CIPAC 1, p.897, MT/30.1)*

Maximum : 0.25 per cent.

10 PACKAGING

The containers shall comply with the requirements stipulated in SLS .... Code of practice for packaging of pesticides (under preparation).

11 MARKING

The marking on the containers shall be in accordance with the Control of Pesticides Act No. 33 of 1980 and regulations framed thereunder.

SCETION 3 - DEMETON-S-METHYL EMULSIFIABLE CONCENTRATES

12 DESCRIPTION

The product shall consist of an emulsifiable concentrate based on demeton-S-methyl as the only active ingredient, together with suitable solvents and any necessary formulants. It shall be free from visible suspended matter and sediments.

It shall be formulated from demeton-S-methyl of quality complying with the specification for *demeton-S-methyl technical* (Section 1), or the specification for *demeton-S-methyl technical solutions* (Section 2).

13 ACTIVE INGREDIENT

13.1 Identity *(CIPAC 1, Method 47.a(S)/5/m/1.5, see Note 1)*

Where the identity of the material is in doubt, the identity shall be determined.

13.2 Demeton-S-methyl *(CIPAC 1, p.313, Method 47.a(S)/5/M/1.4)*

The demeton-S-methyl content shall be declared (per cent *m/m* **and/or** g/l at 20 °C) and when determined, the content obtained shall not differ from that declared by more than :

Declared content	Permitted tolerance
Up to 40 per cent or 400 g/l	+ 5 per cent to - 5 per cent of the declared content
Over 40 per cent or 400 g/l	+ 6 percentage units or + 60 g/l to - 2 percentage units or - 20 g/l

14 IMPURITIES

14.1 Acidity or alkalinity *(CIPAC 1, p.313, Method 47.a(S)/5/M/1.3)*

Maximum acidity : 0.35 per cent, calculated as sulphuric acid.

Maximum alkalinity : 0.05 per cent, calculated as sodium hydroxide.

14.2 Water *(CIPAC 1, p.313, Method 47.a(S)/5/M/1.7)*

Maximum : 0.2 per cent.

15 PHYSICAL PROPERTIES

15.1 Emulsion stability and re-emulsification *(CIPAC 1, p.313, Method 47.a(S)/5/M/1.9)*

After the heat stability test (16.2), the product when diluted at 30 °C (see Note 2) with the specified CIPAC Standard Waters, shall comply with the following:

Time after dilution	Limits of stability
0 h	Initial emulsifiability complete
0.5 h	Cream : maximum 2 ml
2.0 h	Separated material : maximum 5 ml including 4 ml of free oil
24.0 h	Re-emulsification : complete
24.5 h	Cream : maximum 4 ml Free oil : maximum 4 ml

The product shall be tested in Standard Water A and in Standard Water C.

Alternatively, if the buyer requires other CIPAC Standard Waters to be used, he should specify accordingly when ordering.

15.2 Flash point* *(CIPAC 1, p.313, Method 47.a(S)/5/M/1.6)*

The flash point of the product shall not be lower than the minimum declared flash point (see Note 3). The method used for the determination of flash point shall be stated (for example: Abel method).

16 STORAGE STABILITY

16.1 Low temperature stability *(CIPAC 1, p.313, Method 47.a(S)/5/M/1.8)*

After storage at 0 °C (see Note 4) for 7 days, the volume of solid and/or liquid which separates shall be not more than 0.3 per cent.

16.2 Heat stability *(CIPAC 1, p.314, Method 47.a(S)/5/M/1.10)*

After storage at 54 ± 2 °C for 14 days (if the product contains more than 300 g/l then the storage shall be for 7 days), the product shall continue to comply with 13.2 (except that the minimum permitted

* *For information.*

demeton-S-methyl content shall be 85 per cent of that declared under 13.2) and 14.1 (except that the maximum permitted acidity shall be 1.0 per cent).

17 BIOLOGICAL PROPERTIES

17.1 Phytotoxicity*

At the present stage of our knowledge, no tests can be specified to cover phytotoxicity of formulations to crops.

When a certain crop is not specifically mentioned in the instructions for use, purchasers should check with the supplier to ensure that the product is suitable, always provided that the proposed use is not restricted or legally forbidden.

17.2 Wetting of crops* *(CIPAC 1, p.314, Method 47.a(S)/5/M/1.11)*

The dilute spray shall satisfactorily wet the leaves of the specified crops, when used in accordance with the instructions.

However, owing to wide variations in crops and pests, no specific figures can be assigned to wetting of crops, but this test may prove useful.

18 PACKAGING

The containers shall comply with the requirements stipulated in **SLS** ... Code of practice for packaging of pesticides (under preparation).

19 MARKING

The marking on the containers, shall be in accordance with the Control of Pesticides Act No. 33 of 1980 and regulations framed thereunder.

SECTION 4 - SAMPLING AND CONFORMITY TO STANDARD

20 SAMPLING

20.1 Representative samples of the material for ascertaining conformity to the requirements of this specification shall be drawn as prescribed in **SLS 592.**

20.2 Minimum sizes of composite samples to be drawn shall be as follows:

a) Demeton-S-methyl technical, at least 300 g

b) Demeton-S-methyl technical solutions, at least 600 ml

c) Demeton-S-methyl emulsifiable concentrates, containing at least 300 g of demeton-S-methyl

* *For information.*

21 CONFORMITY TO STANDARD

A lot shall be declared as conforming to the requirements of this specification, if the following conditions are satisfied :

21.1 All containers selected as in **20.1** conform to the packaging and marking requirements.

21.2 The composite sample drawn as in **20.2** when tested, satisfies the requirements given in the relevant section.

NOTES

1 Method not included in CIPAC 1 or 1A, but will appear in subsequent volumes of CIPAC handbook. Pending such publications, a copy of the method may be obtained on request from the FAO Secretariat.

2 Unless another temperature is specified.

3 Attention is drawn to the appropriate national and international regulations concerning handling and transport of flammable materials.

4 A test temperature of 0 °C *may not be suitable for products intended for use in cold climates and, in such cases, an alternative test temperature may be specified.*

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

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.