RWANDA STANDARD

DRS 593-3

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Lambda-cyhalothrin — Specification — Part 3: Water dispersible granules

ICS 65.100.10

Reference number

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In order to match with technological development and to keep continuous progress in industries, standards are subject to periodic review. Users shall ascertain that they are in possession of the latest edition

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Field Code Changed

Contents

Foreword

Rwanda Standards are prepared by Technical Committees and approved by Rwanda Standards Board (RSB) Board of Directors in accordance with the procedures of RSB, in compliance with Annex 3 of the WTO/TBT agreement on the preparation, adoption and application of standards.

The main task of technical committees is to prepare national standards. Final Draft Rwanda Standards adopted by Technical committees are ratified by members of RSB Board of Directors for publication and gazettment as Rwanda Standards.

DRS 593-3 was prepared by Technical Committee RSB/TC 64, *Pesticides.*

DRS 593 consists of the following parts, under the general title *Lambda-cyhalothrin pesticides — Specification*:

— *Part 1: Technical material*

— *Part 2: Emulsifiable concentrates (EC)*

— *Part 3: Water dispersible granules*

— *Part 4: Rapid-release capsule suspension*

Committee membership

The following organizations were represented on the Technical Committee on *Pesticides* (RSB/TC 64) in the preparation of this standard.

Rwanda Food and Drugs Authority

Rwanda Forensic Institute

University of Rwanda/College of Sciences and Technology

Standards of Sustainability

CYIRA Ltd

Rwanda Inspectorate, Competition and Consumer Protection Authority

Rwanda Investigation Bureau

Rwanda Agriculture and Inputs Organization (RAIDO)

Rwanda Standards Board (RSB) – Secretariat

Introduction

A paragraph.

Lambda-cyhalothrin pesticides — Specification — Part 3: Water dispersible granules

1 Scope

This Draft Rwanda Standard specifies the requirements, sampling and test methods for lambda-cyhalothrin pesticides in form of water dispersible granules meant for plant protection purpose.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO ab-c: 201x, *General title of series of parts — Part c: Title of part*

ISO xyz (all parts), *General title of the series of parts*

3 Terms and definitions

For the purposes of this standard, the terms and definitions given in RS 406 apply.

4 Requirements

4.1 General requirements

4.1.1 The product shall consist of a homogeneous mixture of technical lambda-cyhalothrin, complying with DRS 593-1, together with carriers and any other formulants.

4.1.2 The product shall be in the form of granules for application after disintegration and dispersion in water.

4.1.3 The product shall be dry, free-flowing and free from visible extraneous matter and hard lumps.

4.2 Specific requirements

The product shall comply with specific requirements given in table 1 when tested according to the method prescribed therein.

Table 1 – Specific requirements for lambda-cyhalothrin water dispersible granules

S/N	Parameters	Requirements	Test methods

i.	Lambda-cyhalothrin content, % by mass, min.	2.5	DRS 594
ii.	pH range (1% aqueous dispersion)	6.0 – 8.5	Annex A
iii.	Wettability in seconds, max.	5	Annex B
iv.	Wet sieve test (retained on a 75 µm), % by mass, max.	0.5	ASTM E726-01
v.	Degree of dispersion (after 1 min.), % by mass, min.	75	
vi.	Suspensibility, % by mass, min.	50	ASTM E1673-21
vii.	Persistent foam (after 1 minute), ml, max.	10	
viii.	Dustiness	The formulation shall be essentially non-dusty.	
ix.	Acidity (as H_2SO_4) % by mass, max.	1.0	
x.	Alkalinity (as NaOH), % by mass. Max.	1.1	
xi.	Storage stability (at 54 ± 2°C for 14 days), % m/m, min.	95	Annex I ES 753

5 Packaging

The product shall be packaged in accordance with RS 565-2.

6 Labelling and marking

The product shall be labelled and marked in accordance with DRS 578.

7 Retail, distribution, storage and handling

The product shall be handled in accordance with DRS 579

NOTE Attention is drawn to the appropriate national and/ or international regulations on the handling and transport of flammable materials.

8 Sampling

Sampling shall be done in accordance with RS 405.

9 Disposal

Disposal of bulk quantities of obsolete pesticides shall be in accordance with DRS 589.

Annex A
(normative)

Determination of pH value

A.1 Outline of the method

The pH value of a liquid is determined by means of pH meter and a glass electrode.

A.2 Reagents

A.2.1 Potassium hydrogen phthalate (COOH-C_6H_4-COOK) 0.05 mol/l (0.05M) – Dissolve 10.21 g in freshly boiled distilled water and make up to 1000 ml. do no keep the solution for longer than one month.

A.2.2 Disodium tetraborate ($Na_2B_4O_7.10H_2O$ 0.05M – Dissolve 19.07 g in freshly boiled distilled water and make up to 1000 ml. do no keep the solution for longer than one month.

A.2.3 Water – Freshly boiled and cooled distilled water of pH 5.5 to 7.0

A.3 Apparatus

A.3.1 pH meter

A.3.2 Glass electrode and reference electrode

A.4 Procedure

Operate the pH meter and electrode system in accordance with the manufacturer's instructions. Standardize the meter and electrodes with the 0.05M phthalate (pH 4.00) when an acid solution is being measured or 0.05M borate when an alkaline solution is being measured (see Table B1). The reading should not differ by more than 0.02 pH units from the original value at which the apparatus was standardized. If the difference is greater than 0.05, then repeat the measurements.

Table B1 – pH values of 0.05M disodium tetraborate Temperature, °C	10	15	20	25	30
pH	9.32	9.28	9.22	9.18	9.14

A.5 pH of aqueous dispersion

Weigh 1 g of sample, transfer to the measuring cylinder containing water (about 50 ml), make up to 100 ml with water, and shake vigorously for 1 min. allow any suspension to settle for 1 min and then measure the pH of the supernatant liquid.

Annex B
(normative)

Determination of wettability

B.1 General

A weighed amount of powder is dropped on water in a beaker from a specified height. The time for complete wetting is determined.

B.2 Reagents

Standard water

B.3 Apparatus

C.3.1 **Beaker** – 250 ml, internal diameter 6.5 ± 0.5 cm, height 9.0 ± 0.5 cm.

C.3.2 **Weighing bottle**

C.3.3 **Stop watch** – Accurate to the nearest second.

C.3.4 **Measuring cylinder**, 100 ml.

B.4 Procedure

B.4.1 Without swirling

Pour standard water (100 ± 1 ml) into the beaker. Weigh out 5 ± 0.1 g of a representative sample of the powder, taking care that it remains in a non-compacted state. Add all the powder at once, by dropping it on the water from a position level with the rim of the beaker, without undue agitation of the liquid surface.

When the powder is added, start the stop watch and note the time taken (to the nearest second) for it to become completely wetted.

Report the time, to the nearest second, required for complete wetting of the powder as the wetting time.

NOTE Neglect a film of fine particle remaining on the surface.

B.4.2 With swirling

Carry out the procedure given in C.4.1 except that the contents of the beaker should be swirled by hand at the rate of 120 swirls per minute after the addition of powder. Report the results as wetting time with swirling.

Annex C

Price based on nnn pages