



**RWANDA
STANDARD**

**DRS
581-2**

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**Alpha-cypermethrin Pesticides —
Specification — Part 2: Wettable powder**

ICS 65.100.10

Reference number

DRS 581-2: 2024

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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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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 581-2 was prepared by Technical Committee RSB/TC 64, *Pesticides*.

IS 15603, *Alpha-cypermethrin, Ewtttable Powder (WP) — Specification*

The assistance derived from the above source is hereby acknowledged with thanks.

DRS 581 consists of the following parts, under the general title *Alpha-cypermethrin pesticides — Specification*

— *Part 1: Technical specification*

— *Part 2: Wettable powder*

— *Part 3: Suspension concentrate*

— *Part 4: Emulsifiable concentrate*

— *Part 5: Ultra low volume liquid*

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

P-TECHNIKS Ltd

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Rwanda Inspectorate, Competition and Consumer Protection Authority

Rwanda Investigation Bureau

RAIDO

Rwanda Standards Board (RSB) – Secretariat

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Introduction

A paragraph.

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Alpha-cypermethrin — Specification — Part 2: Wettable powder

1 Scope

This Draft Rwanda Standard specifies the requirements, sampling and test methods for wettable powder of alpha-cypermethrin used for agricultural 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.

RS 405, *Pesticides — Sampling*

RS 406, *Pesticides — Terminology*

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 alpha-cypermethrin together with filler(s) and any other necessary formulants.

4.1.2 It shall be in the form of a freely flowing whitish fine powder, free from visible extraneous matter and hard lumps.

4.1.3 Alphacypermethrin, technical employed in the formulation of this material shall conform to DRS 581-1.

4.2 Active ingredient

4.2.1 Identity test

The active ingredient shall comply with an identity test and, where the identity remains in doubt, shall comply with at least one additional test.

4.2.2 Alpha-cypermethrin content

The alpha-cypermethrin content shall be declared (g/kg) and, when determined, the average measured content shall not differ from that declared by more than $\pm 6\%$ of above 100 up to 250.

4.3 Specific requirements

4.3.1 Physical properties

The product shall comply with the requirements given in table 1 when tested in accordance with the methods prescribed therein.

Table 1 — Physical properties for Alpha-cypermethrin wettable powder

S/N	Characteristics	Requirements	Test method
i.	pH, range	4-8	
ii.	Wet sieve test, % by max, max., shall be retained on 75 μ m	2	
iii.	Suspensibility, % by max, min., after 30 min at 30 \pm 2 $^{\circ}$ C	70	Annex A
iv.	Wettability, in 1 min with swirling	Shall be completely wetted	
v.	Persistent foam, ml after 1 min	60	
vi.	^a Storage stability, % by mass, min., at 54 \pm 2 $^{\circ}$ C for 14 days	95	
^a Analysis of the formulation, before and after the storage stability test, should be carried out concurrently (i.e. after storage) to reduce the analytical error.			

4.3.2 Chemical properties

4.3.2.1 Alphacypermethrin Content

When determined by DRS 581-1, Annex A, the observed alpha-cypermethrin content, percent (m/m), of any of the samples shall not differ from the declared nominal value by more than the percent tolerance limits indicated below:

S/N	Nominal value, %	Tolerance limit, %
i.	Up to 9	+10 -5
ii.	9-50	± 5

iii.	>50	+5 -3
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4.3.2.1.1 The actual value of alpha-cypermethrin content in the formulations shall be calculated to the second decimal place and then rounded off to the first decimal place before applying the tolerance given in 4.3.2.1

4.3.2.1.2 The average alpha-cypermethrin content of all samples taken shall not be less than the declared nominal content

4.3.2.2 Acidity or alkalinity

The acidity (calculated as H₂SO₄) or alkalinity (calculated as NaOH) of the material shall be maximum 0.15 percent w/w when determined by the **method prescribed in** RS xxx

5 Packaging

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

6 Labelling and marking

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

7 Retail, distribution, storage and handling

The pesticide 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 carried out in accordance with RS 405.

9 Disposal

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

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Annex A (normative)

Determination of suspensibility

A.1 Procedure

A.1.1 Weigh 4.5 g of wetting powder and carry out suspensibility.

A.1.2 Proceed with the retained one tenth of the suspension, including the sediment for the determination of active ingredient, as follows:

A.1.3 Filter the sediment including suspension using distilled water by suction. Quantitatively transfer the sediment into 100 ml volumetric flask initially with the help of small quantities of toluene (up to 25 ml) and then with the mobile phase being used for determination of the active ingredient described in [Annex A of RS xxx-1](#).

A.1.4 Add 10ml of internal standard by pipette. Makeup the volume up to the mark using mobile phase. Mix well to ensure complete dissolution of alphacypermethrin present in the sediment. Filter through a suitable disc filter.

A.1.5 Determine alphacypermethrin content of the filtered solution by HPLC as described in [Annex A of RS xxx-1](#).

A.2 Calculation

$$\text{Suspensibility percent} = \frac{1000(M-m)}{9 \times M}$$

Where,

M= mass of alpha-cypermethrin present in sample used for test (calculated from mass of sample and its percent alphacypermethrin content), in g; and

m= mass of alphacypermethrin found in suspension including the sediment remaining in the graduated cylinder, in g.

Annex B
(informative)

Which styles correspond to which element — Quick reference guide

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Bibliography

- [1] FAO Specifications and evaluations for agricultural pesticides for *Alpha-cypermethrin*

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