



**RWANDA  
STANDARD**

**DRS  
581-4**

First edition

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**Alpha-cypermethrin pesticides —  
Specification — Part 4: Emulsifiable  
concentrate**

ICS 165.100.10

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Reference number

DRS 581-4: 2024

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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 581-4 was prepared by Technical Committee RSB/TC 64, *Pesticides*.

IS 15602, *Alpha-cypermethrin, EC — 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 pesticides — Specification — Part 4: Emulsifiable concentrate

### 1 Scope

This Draft Rwanda Standard specifies the requirements, sampling and test methods for emulsifiable concentrate 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*

RS 565-2, *Packaging of Pesticides — Requirements — Part 2: Liquid pesticides*

DRS 578, *Pesticides — Guidelines on good labelling practices*

DRS 579, *Pesticides — Guidelines for retail, distribution, storage and handling*

DRS 589, *Pesticides — Guidelines for the disposal of bulk quantities of obsolete pesticides*

### 3 Terms and definitions

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

### 4 Requirements

#### 4.1 Active ingredient

##### 4.1.1 Identity tests

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

##### 4.1.2 Alpha-cypermethrin content

The alpha-cypermethrin content shall be declared (g/kg or g/l at  $20 \pm 2^\circ\text{C}$ , Note1) and, when determined, the average measured content shall not differ from that declared by more than the following tolerances:

Declared content in g/kg or g/l at 20 ± 2°C	Tolerance limit
up to 25	± 15% of the declared content
above 25 up to 100	± 10% of the declared content
above 100 up to 250	± 6% of the declared content
Note 1: in each range the upper limit is included	

## 4.2 General requirements

**4.2.1** The product shall consist of alpha-cypermethrin dissolved in suitable solvent(s) together with emulsifying agent(s) and with or without stabilizer(s).

**4.2.2** Alphacypermethrin, technical employed in the manufacture of the material shall comply to RS xxx-1.

**4.2.3** The product shall be a clear, homogeneous and stable liquid. It shall readily form an emulsion, on dilution with water, suitable for spray.

## 4.3 Specific requirements

### 4.3.1 Physical properties

**4.3.1.1** The product when tested with the requirements given in table 1 when tested in accordance with the methods prescribed therein

S/N	Characteristics	Requirements	Test method
i.	pH, range	4-8	
ii.	Flash point, °C, min.	24.5	
iii.	Cold test, at 10 °C	No turbidity or separation shall occur	
iv.	Persistent foam, ml after 1 min	60	

**4.3.1.2 Emulsion Stability and re-emulsification** – Any separation including creaming at the top and sedimentation at the bottom of 100 ml of emulsion, prepared in standard hard water with 2.0 ml of Emulsifiable Concentrate, shall not exceed 2.0 ml, when tested by the method prescribed in **RS xxx**.

The formulation, when diluted at 30 ± 2°C with CIPAC standard waters shall comply with the following

Time after dilution, hr	Limit of stability



0	Initial emulsification complete
0.5	"Cream", maximum: 2 ml
2	"Cream", maximum: 5 ml "Free oil", maximum: 1
24	Re-emulsification complete
24.5	"Cream", maximum: 5 ml "Free oil", maximum: 1
Note Tests after 24 h are required only where results at 2 h are in doubt.	

**4.3.1.1 Storage stability**

**4.3.1.1.1 Stability at 0°C**

After storage at  $0 \pm 2^\circ\text{C}$  for 7 days, the volume of solid and/or liquid which separates shall not be more than 0.3 ml.

**4.3.1.1.2 Stability at elevated temperature**

After storage at  $54 \pm 2^\circ\text{C}$  for 14 days, the determined average active ingredient content must not be lower than 95% relative to the determined average content found before storage

Note: 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 Alpha-cypermethrin Content**

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

Nominal value, percent	Tolerance limits, percent
------------------------	---------------------------

<9	+10 -5
9- 50	±5
>50	+5 -3

**4.3.2.1.1** The actual value of alphacypermethrin content in the formulation shall be calculated to the second decimal place and then rounded off to the first decimal place before applying the tolerances given in 4.3.2.1.

#### **4.3.2.2 Acidity/ Alkalinity**

When tested by the method prescribed in RS xxx, acidity (as H<sub>2</sub>SO<sub>4</sub>) shall not be more than 0.15 percent by mass. The material shall not be alkaline when tested by (aqueous) litmus paper.

### **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.

**Annex A**  
(normative)

**Annex title**

**A.1 General**

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**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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