
**Pesticides - Lambda-cyhalothrin Part 1:
Technical material (TC) - Specification**

ICS: 65.100.10

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Foreword

This Ethiopian Standard has been prepared under the direction of the Technical Committee for Pesticides (TC 19) and published by the Ethiopian Standards Agency (ESA).

The standard is Cancels and replaces of the Ethiopian Standard ES 716-1:2002 "*Pesticides - Lambda-cyhalothrin Part 1: Technical material (TC) - Specification*", with some editorial changes without altering the technical contents in the former text.

In preparing this Ethiopian Standard reference has been made to the following:

FAO specifications and evaluations for plant protection products- Lambela-cyhalothrin technical material, FAO specification 463/TC (1999).

Acknowledgement is made for the use of information from the above publication.

Pesticides — Lambda-cyhalothrin

Part 1: Technical material (TC) — Specification

1 Scope

This Ethiopian Standard specifies the requirements for the lambda-cyhalothrin emulsifiable concentrates (for plant protection purpose).

2 Normative references

The following referenced documents are indispensable for the application 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.

ES 693, *Pesticides – Terminology*

ES 694, *Pesticides – Methods of sampling*

ES 695, *Pesticides – Packaging.*

ES 696, *Pesticides – Guidelines on good labelling practice.*

ES 697, *Pesticides – Guideline for retail distribution, storage and handling.*

ES 700, *Pesticides – Guidelines for the bulk quantities of obsolete pesticides.*

ES 750, *Pesticides – Determination of free acidity or alkalinity.*

ES 760, *Petroleum and other liquids – Determination of flash point.*

ES 779, *Pesticides – Determination of lambda-cyhalothrin content*

3 Definitions

For the purpose of this Ethiopian Standard, terms defined in ES 693 shall apply.

4 GENERAL INFORMATION

COMMON NAMES:

Lambda-cyhalothrin (draft E-ISO)

Lambda-cyhalothrine (draft F-ISO)

CHEMICAL NAMES

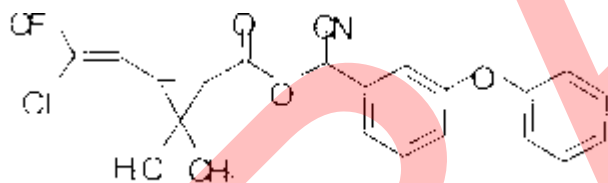
(I UPA C):

alpha-cyano-3-phenoxybenzyl 3-(2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate, a 1:1 mixture of the (Z)-(1R,3R),S-ester and the (Z)-(1S,3S),R-ester

CA:

[1-alpha(S),3-alpha(Z)]-cyano(3-phenoxyphenyl)methyl-3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate (9C1)

STRUCTURAL FORMULA:



EMPIRICAL FORMULA: $C_{23}H_{19}ClF_3NO_3$

CHEMICAL GROUP: Pyrethroid

USE CATEGORY: Insecticide

WHO CLASS: II

RELATIVE MOLECULAR MASS: 449.9

CAS REGISTRY NUMBER: 91465-08-6

CIPAC NUMBER: 463

5. Requirements

5.1 Description

The material shall consist of technical lambda-cyhalothrin, together with related manufacturing impurities and shall be a viscous brown/green semi-solid mass, which is liquid at 50°C and contain not more than a trace of insoluble material, and shall be free from extraneous matter and added modifying agents.

5.2 Active ingredient

5.2.1 Identity tests

The active ingredient shall comply with an identity test and, where the identity remains in doubt determine by ES 779, and shall comply with at least one additional test.

5.2.2 Lambda-cyhalothrin content

The lambda-cyhalothrin content shall be declared not less than 810g/kg and when determined in accordance with 779 the mean measured shall not be lower than the declared minimum content.

5.3 Physical and Chemical Properties

5.3.1 Acidity

When determined in accordance with ES 750 the maximum acidity content shall be 0.5g/kg, calculated as H₂SO₄.

Note: the flash point of the product shall not be lower than

Table 1.A detailed chemical and physical characterization of the active ingredient

S/N	Parameters	Typical Value	Test method
1	Appearance	yellow brown viscous liquid	visual
2	Solubility - In water at 22 °C (mg l ⁻¹)	4 × 10 ³ mg/litre	EEC A6; OECD 105
3	Solubility - In organic solvents at 25 °C (mg l ⁻¹)	Soluble in most organic solvent	CLPAC MT 181
4	Melting point (°C)	49 ⁰ C	OECD 105, OPPTS
5	Boiling point (°C)	Decompose before boiling	796.1840, EEC A.6
6	Flashpoint (°C)	< 40 ⁰ C	ES 760
7	Specific gravity (g ml ⁻¹)	1.25g/ml	differential scanning calorimetry (DSC)
8	Stability	No thermal effect found B/n room	OECD 103, OPPTS
9	Henry's law constant at 25 °C (Pa m ³ mol ⁻¹)	3.30 X 10 ⁻⁰⁵ (Non volatile)	830.7220, EEC A.2

7 Handling

Pesticides shall be handled in accordance with ES 697.

8 Sampling

Samples shall be taken in accordance with ES 694.

9 Packaging

Products shall be packed in accordance with ES 695.

NOTE 1- Packing materials shall comply with pertinent national and international transport and safety regulations.

10 Labeling

Pesticides shall be labeled in accordance with ES 696.

11 Disposal

Disposal of bulk quantities of obsolete pesticides shall be in accordance with ES 700

Organization and Objectives

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ESA's objectives are:-

- ❖ Develop Ethiopian standards and establish a system that enable to check whether goods and services are in compliance with the required standards,
- ❖ Facilitate the country's technology transfer through the use of standards,
- ❖ Develop national standards for local products and services so as to make them competitive in the international market.

Ethiopian Standards

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More Information?

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