
**Pesticides— Metalaxylm-
Specification**

Foreword

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

The standard is developed of Ethiopian Standard ES 6804:2021 for "*Pesticides – Metalaxylm Part 1: Technical Material (TC) - Specifications*" to be published.

In the preparation of this standard reference has been made to the following:

AGP:CP/243:1991, FAO specification for plant protection products, "Metalaxyl technical, FAO specification 365/TC/S/F(1992)", published by the Food and Agriculture Organization of the United Nations (FAO), Rome.

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

Pesticides — Metalaxylm- Specification

1 Scope

This Ethiopian Standard specifies the requirements for metalaxylm (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 - Guidelines for retail distribution, storage and handling.*

ES 700, *Pesticides - Guideline for the disposal of bulk quantities of obsolete pesticides.*

ES 737, *Pesticides - Determination of material insoluble in acetone.*

ES 749, *Pesticides - Determination of water content.*

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

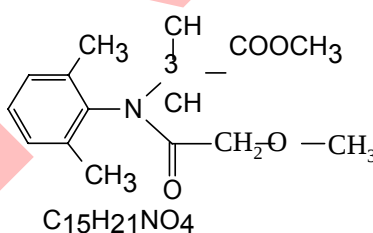
3 Definitions

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

4 General information

COMMON NAME: metalaxyl (ISO)

STRUCTURAL FORMULA:



RMM: 279.3

CAS REGISTRY NUMBER: 57837-19-1

CIPAC CODE NUMBER: 365

CHEMICAL NAMES

methylN-(2-methoxyacetyl)-N-(2,6-dimethylphenyl)-DL-alaninate(IUPAC)

methylN-(2,6-dimethylphenyl)-N-(methoxyacetyl)-DL-alaninate(CA)

CHEMICAL GROUP

Phenylamide

USECATEGORY: Fungicide

WHOCCLASS: ii

5 Requirements**5.1 Description**

The material shall consist of metalaxyl together with related manufacturing impurities and shall be a brownish powder or a solidified melt or brownish flakes or pellets, free from visible extraneous matter and added modifying agents.

5.2 Active ingredient**5.2.1 Metalaxyl**

The metalaxyl content shall be declared in g/kg (not less than 980 g/kg) and, when determined in accordance with ES 761, the content obtained shall not differ from that declared by more than +/- 25 g.

5.2.2 Identity tests (365/TC/M/2, CIPAC E, p.123)

An identity test is required if the identity of the active ingredient is in doubt.

Metalaxyl (365/TC/M/3, CIPAC E, p.124)

The metalaxyl content shall be declared (not less than 950 g/kg) and, when determined, the content obtained shall not differ from that declared by more than ± 20 g/kg.

5.3 IMPURITIES

2,6-dimethylaniline (365/TC/M/4, CIPAC E, p.126) Maximum: 1 g/kg.

6 Physical properties**Optical rotation**

When determined in accordance with WD⁴⁾ the optical rotation of the product shall be $20^{\circ}\text{C} = 57 + 1.5^{\circ}\text{C.D}$

Melting point

When determined in accordance with WD⁵⁾ the maximum melting point of the product shall be 72.0°C .

Table 1. Physical and chemical properties for Metalaxylm

No	Parameters	Typical Value	Test method
1	Appearance	brownish powder or a solidified melt or brownish flakes or pellets	visual
2	Solubility - In water at 20 °C (mg l ⁻¹)	26000	EEC A6; OECD 105
3	Solubility - In organic solvents at 20 °C (mg l ⁻¹)	Soluble in most organic solvent	flask method
4	Melting point (°C)	-38.7°C	OECD 105, OPPTS
5	Boiling point (°C)	Decompose before boiling	796.1840, EEC A.6
6	Flashpoint (°C)	179	EEC A1; OECD 102
7	Specific gravity (g ml ⁻¹)	1.130g/ml at 25 $\pm$ 0.5°C	differential scanning calorimetry (DSC)
8	Stability	No data available	OECD 103, OPPTS
9	Henry's law constant at 25 °C (Pa m ³ mol ⁻¹)	3.50 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

Pesticides shall be packed in accordance with ES 695.

10 Labeling

Pesticides labeling shall be in accordance with ES 696.

11 Disposal

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

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Bibliography

WD¹⁾, Pesticides – Determination of R-isomer in Metalaxylm

WD²⁾, Pesticides – Determination of acid chloride in Metalaxylm.

WD³⁾, Pesticides – Determination of acid + anhydride in Metalaxylm

WD⁴⁾, Pesticides – Determination of optical rotation of Metalaxylm

WD⁵⁾, Pesticides – Determination of Metalaxylm melting point.

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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.

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The Ethiopian Standards are developed by national technical committees which are composed of different stakeholders consisting of educational Institutions, research institutes, government organizations, certification, inspection, and testing organizations, regulatory bodies, consumer association etc. The requirements and/or recommendations contained in Ethiopian Standards are consensus based that reflects the interest of the TC representatives and also of comments received from the public and other sources. Ethiopian Standards are approved by the National Standardization Council and are kept under continuous review after publication and updated regularly to take account of latest scientific and technological changes.

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