
**Pesticides — Acetamiprid Part1:
Acetamiprid Technical Material (TC) -
Specifications**

ICS: 65.100.10

Published by Ethiopian Standards Agency

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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 developed of Ethiopian Standard ES 6797:2021 for "*Pesticides - Acetamiprid Part 1: Technical Material (TC) - Specifications*" to be published.

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

Morishima, Y: 2000, Acetamiprid (Code No. :NI-25) Melting Point

Morishima, Y; 1997: Acetamiprid (Code No. : NI-25) Color, Physical-State and Odor of Technical Grade of Active Ingredient and Analytical Standard

Gomyo, T: 1997, Acetamiprid (Code No. :NI-25) Solubility in Water

Gomyo, T:1997, Acetamiprid (Code No. :NI-25) Solubility in Organic Solvents

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

Pesticides- Acetamiprid Part1: Technical material (TC)- Specification

1 Scope

This Ethiopian Standard specifies the requirements for the technical material of acetamiprid (for agricultural 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.*

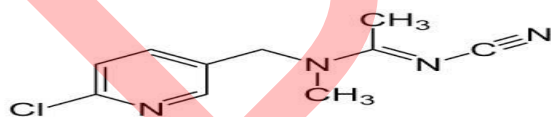
3 Definitions

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

4 General information

COMMON NAME: *Acetamiprid* (ISO)

STRUCTURAL FORMULA:



EMPIRICAL FORMULA: $C_{10}H_{11}ClN_4$

RMM: 222.7

CAS REGISTRY NUMBER: (135410-20-7)

CIPAC CODE NUMBER: 649

CHEMICAL NAMES:

IUPAC NAME (E)-N¹-[(6-chloro-3-pyridyl)methyl]-N²-cyano-N¹-methylacetamidine

CA NAME (E)-N-[(6-chloro-3-pyridinyl)methyl]-N'-cyano-N-methylethanimidamide

CHEMICALGROUP: Neonicotinoid

USECATEGORY: Insecticide

WHOCCLASS: ii

AVAILABLE FORMULATIONS: Wettable Powders

5 Requirements

5.1 Description

The material shall consist of *Acetamiprid* together with related manufacturing impurities and shall be a white powder with scentless odor.

5.2 Active ingredient

5.2.1 Acetamiprid Content

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

5.3 Impurities

5.3.1 Acitamiprid S isomer

When determined in accordance with WD¹⁾ the maximum content of Acitamiprid S isomer shall be 10g/kg.

Water content

When determined Water content of acitamiprid shall be 0.5gm/kg

6 Physical and Chemical Properties

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

Table 1. Physical and chemical data of acetamiprid (active ingredient)

S/N	Parameters	Typical Value	Test method
1	Appearance	a white powder with scentless odor.	visual
2	Solubility - In water at 20 °C (mg l ⁻¹)	Water solubility at25 °C: In distilled water:4.25×103mg/lpH5: 3.48×103mg/l pH7: 2.95×103mg/l pH9: 3.96×103mg/l	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)	98.9°C	OECD 105, OPPTS
5	Boiling point (°C)	Decompose before boiling	796.1840, EEC A.6
6	Flashpoint (°C)	Not expected to self ignite; Not highly flammable	EEC A1; OECD 102;
7	Specific gravity (g ml ⁻¹)	1.330g/ml at 25 ± 0.5°C	differential scanning calorimetry (DSC)

8	Stability	It is stable to hydrolysis at environmental temperature and Ph 4,5,7	OECD 103, OPPTS
9	Henry's law constant at 25 °C (Pa m ³ mol ⁻¹)	5.30 X 10-08 (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.

Bibliography

WD¹⁾, Pesticides – Determination of R-isomer in acetamiprid.

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

WD³⁾, Pesticides – Determination of acid + anhydride in acetamiprid.

WD⁴⁾, Pesticides – Determination of optical rotation of acetamiprid.

WD⁵⁾, Pesticides – Determination of acetamiprid melting point.

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- ❖ 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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