
Pesticides-Thiamethoxam-Specification

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 6796:2021 - *Pesticides –thiamethoxam - 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 specification for plant protection product - *thiamethoxam*:637:FAO Specification 637 / TC
(April 2014*)1995.

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

Pesticides Thiamethoxam — Specification

1 Scope

This Ethiopian Standard specifies the requirements for thiamethoxam (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

ISO common name Thiamethoxam (ISO 1750 approved)

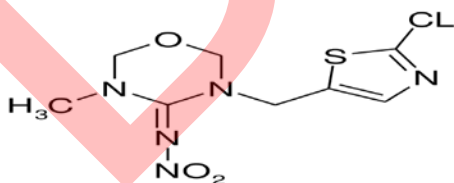
Synonyms None

Chemical names

IUPAC (EZ)-3-(2-chloro-1,3-thiazol-5-ylmethyl)-5-methyl-1,3,5-oxadiazinan-4-ylidene(nitro)amine

CA3-[2-chloro-5-thiazolyl)methyl]tetrahydro-5-methyl-N-nitro-4H-1,3,5-oxadiazin-4-imine

Structural formula



Molecular formula

$C_8H_{10}ClN_5O_3S$

Relative molecular mass 291.7 g/mol

CAS Registry number 153719-23-4

CIPAC number 637

Identity tests

IR spectroscopy for TC, retention time in reverse phase HPLC (TC, formulations).

5 Thiamethoxam Technical Material

5.1 Description

The material shall consist of thiamethoxam together with related manufacturing impurities, in the form of white to beige granular powder, and shall be free from visible extraneous matter and added modifying agents.

5.2 Active ingredient

5.3 Identity tests (CIPAC 637/TC/M/-, Note1)

5.4 Thiamethoxam content (CIPAC 637/TC/M/-, Note1)

The thiamethoxam content shall be declared (not less than 980 g/kg) and, when determined, the average measured content shall not be lower than the declared minimum content.

Table 1. Physico-chemical properties of pure thiamethoxam

No	Parameters	Typical Value	Test method
1	Appearance	Crystalline powder - White powder	visual
2	Solubility - In water at 20 °C (mg l ⁻¹)	4.1 g/l at 25 °C at pH 7.3	EEC A6; OECD 105 flask method
3	Solubility - In organic solvents at 20 °C (mg l ⁻¹)	Soluble in many inorganic solvents	OECD 105, OPPTS 796.1840, EEC A.6
4	Melting point (°C)	139.1°C	EEC A1; OECD 102; differential scanning calorimetry (DSC)
5	Boiling point (°C)	Decomposition temperature: thermal decomposition starts at about 147°C before boiling point is reached	OECD 103, OPPTS 830.7220, EEC A.2
6	Flashpoint (°C)	Not expected to self ignite; Not highly flammable	A5
7	Specific gravity (g ml ⁻¹)	0.740 g/ml at 25 ± 0.5°C	EEC A3; OECD 109; pycnometer method
8	Stability	It is stable under acidic condition but does hydrolyze under alkaline conditions	OECD 113
9	Henry's law constant at 25 °C (Pa m ³ mol ⁻¹)	4.70 X 10 ⁻¹⁰ (Non volatile)	A5

6 Handling

Pesticides shall be handled in accordance with ES 697.

7 Sampling

Samples shall be taken in accordance with ES 694.

8 Packaging

Pesticides shall be packed in accordance with ES 695.

9 Labeling

Pesticides labeling shall be in accordance with ES 696.

10 Disposal

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

ANNEX 1**HAZARD SUMMARY PROVIDED BY THE PROPOSER**

Notes.

- (i) The proposer confirmed that the toxicological and ecotoxicological data included in the summary below were derived from thiamethoxam having impurity profiles similar to those referred to in the table above.
- (ii) The conclusions expressed in the summary below are those of the proposer, unless otherwise specified.

DRAFT

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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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More Information?

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