
**Pesticides — Azoxystrobin
Technical Material (TC) Specifications**

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).

This standard is developed of Ethiopian Standard ES 6807: 2021 for "*Pesticides - Azoxystrobin Part 1: Technical Material (TC) - Specifications*" to be published.

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

FAO Specifications and Evaluations for Agricultural Pesticides, Azoxystrobin, FAO Specification 571 / TC (2019), published by the Food and Agriculture Organization of the United Nations (FAO), Rome.

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

Azoxystrobin- Technical Material (TC)- Specifications

1 Scope

This Ethiopian Standard specifies requirements for the Technical Material of Azoxystrobin (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 Terms and definitions

For the purpose of this standard the terms and defined in ES 693 shall apply.

4 General information

ISO common name: Azoxystrobin (E-ISO, BSI)

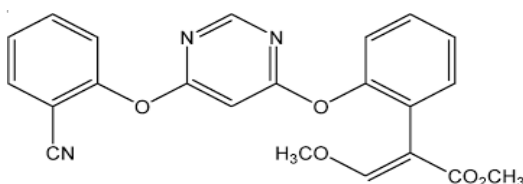
Chemical name(s):

IUPAC, methyl (E)-2-{2-[6-(2-cyanophenoxy)pyrimidin-4-yloxy]phenyl}-3-methoxyacrylate

CA, methyl (E)-2-[[6-(2-cyanophenoxy)-4-pyrimidinyl]oxy]-1-methoxy-3-(methoxymethylene) benzeneacetate (9CI)

Synonyms: none

Structural Formula;



Molecular formula:	C ₂₂ H ₁₇ N ₃ O ₅
Relative molecular mass:	403.4
CAS Registry number:	131860-33-8
CIPAC number:	571
Identity tests:	GC retention time; IR spectrum

5 Azoxystrobin Technical Material

5.1 Description

The material shall consist of azoxystrobin together with related manufacturing impurities, in the form of an off-white to light brown or yellowish powder and shall be free from visible extraneous matter and added modifying agents.

5.2 Active ingredient

5.2.1 Identity tests (CIPAC 571/TC/M/2, Handbook M, p. 11, 2009)

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

5.2.2 Azoxystrobin content (CIPAC 571/TC/M/3, Handbook M, p. 11, 2009)

The azoxystrobin content shall be declared (not less than 965 g/kg) and, when determined, the average measured content shall not be lower than the declared minimum content.

6 Physical properties

6.1 Wettability (MT 53.3, CIPAC Handbook F, p.165, 1995)

The formulation shall be completely wetted in 30 seconds, with swirling.

6.2 Wet sieve test (MT 185, CIPAC Handbook K, p.149, 2003)

Maximum: 0.5% retained on a 75 µm test sieve.

6.3 Degree of dispersion (MT 174, CIPAC Handbook F, p.435, 1995)

Dispensability: minimum 70% after 1 minute of stirring.

6.4 Suspensibility (MT 168, CIPAC Handbook F, p.417, 1995 or MT 184.1)

A minimum of 60% shall be in suspension after 30 minutes in CIPAC Standard Water.

D at 30 ± 2°C.

6.5 Persistent foam (MT 47.3, CIPAC Handbook O, p. 177, 2017) Maximum: 60 ml after 1 minute.

6.6 Dustiness (MT 171.1) Essentially non-dusty.

6.7 Flowability (MT 172, CIPAC Handbook F, p.430, 1995)

At least 99% of the formulation shall pass through a 5 mm test sieve after 20 drops of the sieve.

6.8 Attrition resistance (MT 178.2, CIPAC Handbook K, p.140, 2003) Minimum: 90% attrition resistance.

Table 1. Physico-chemical properties of pure azoxystrobin

No	Parameters	Typical Value	Test method
1	Appearance	white to light brown or yellowish powder	visual
2	Solubility - In water at 20 °C (mg l ⁻¹)	6.0 mg/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)	116°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)	1.34g/ml at 25 ± 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)	7.40 X 10-09 (Non volatile)	830.7220, EEC A.2

Table 2. Chemical composition and properties of technical azoxystrobin (TC)

S/N	Characteristics	References
1	Manufacturing process, maximum limits for impurities ≥ 1 g/kg, 5 batch analysis data	Confidential information supplied and held on file by FAO. Mass balances were 98.7-99.6%, with no unknowns ≥1 g/kg.
2	Declared minimum azoxystrobin content	965 g/kg
3	Relevant impurities ≥ 1 g/kg and maximum limits for them	None
4	Relevant impurities < 1 g/kg and maximum limits for them	None
5	Stabilizers or other additives and maximum limits for them	None
6	Melting temperature range of the TC	114-116°C

6. Handling

Pesticides shall be handled in accordance with ES 697.

7. Sampling

Samples shall be taken in accordance with ES 694.

8. 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.

9. Labeling

Pesticides shall be labeled in accordance with ES 696.

10. Disposal

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

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- ❖ 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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