
Pesticides — Alachlor
Part 1:
Technical material (TC) —
Specification

ICS: 65.100.01

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Foreword

This Ethiopian Standard has been prepared under the direction of the Technical Committee for Pesticide(TC19) and published by the Ethiopian Standards Agency (ESA).

The standard is Cancels and replaces of the Ethiopian Standard ES 933-1:2003 - "*Pesticides - Alachlor Part 1: Technical Matrial (TC) -Specification* ",with some editorial changes without altering the technical contents in the former text.

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

FAO Specification for plant protection products, "Alachlor technical, FAO Specification 204/TC/S (1991)", published by the Food and Agriculture Organization of the United Nations (FAO), Rome.

"Summary of Toxicology Data- Alachlor", revised in 3/23/90, published by California Department of Food and Agriculture Medical Toxicology Branch

ES 933 consists of the following parts, under the general title *Pesticides - Alachlor*:

- *Part 1: Technical material (TC)- Specification*
- *Part 2: Emulsifiable concentrates (EC) - Specification*

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

Pesticides — Alachlor

Part 1: Technical material (TC) — Specification

1 Scope

This part of ES 933 specifies requirements for technical material of alachlor (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. Information on currently valid national and international standards can be obtained from the Ethiopian Standards Agency (ESA).

ES 693:2002, *Pesticides – Terminology*.

ES 694:2002, *Pesticides - Method of sampling*.

ES 695:2002, *Pesticides - Packaging*.

ES 696:2002, *Pesticides – Guideline on good labelling practice*.

ES 697:2002, *Pesticides – Guideline for retail distribution, storage and handling*.

ES 700:2002, *Pesticides – Guideline on the disposal of bulk quantities of obsolete pesticides*.

ES 737:2002, *Pesticides – Determination of material insoluble in acetone*.

ES 749:2002, *Pesticides - Determination of water content*.

ES 750:2002, *Pesticides - Determination of free acidity or alkalinity*.

ES 944:2003, *Pesticides – Determination of alachlor content*.

WD 5766¹, *Pesticides - Determination of 2-chloro-2', 6'-diethylacetanilide (2-chloro-N-(2,6-diethylphenyl)acetamide)*.

WD 5767¹, *Pesticides - Determination of sec-butyl-2-chloro-6'-ethyl-N- (methoxymethyl) acetanilide (2-chloro-N-[2-ethyl-6- (1-methylpropyl) phenyl]-N- (methoxymethyl)acetamide)*.

3 Definitions

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

4 General information

COMMON NAME: Alachlor (ISO)

¹ To be prepared

EMPIRICAL FORMULA:	C ₁₄ H ₂₀ ClNO ₂
RMM:	269.8
CAS REGISTRY NUMBER:	15972-60-8
CIPAC CODE NUMBER:	204
CHEMICAL NAMES:	2-chloro-2',6'-diethyl- <i>N</i> -methoxymethylacetanilide (IUPAC) 2-chloro- <i>N</i> -(2,6-diethylphenyl)- <i>N</i> -(methoxymethyl)acetamide (CA)
CHEMICAL GROUP:	Amide
USE CATEGORY:	Herbicides
WHO CLASS:	iii
TOXICOLOGY:	See annex A.
PHYSICAL STATE:	Solid

5 Requirements

5.1 Description

The material shall consist of alachlor together with related manufacturing impurities and a stabilizer. It shall be a yellow to red solid (at room temperature), free from visible extraneous matter and added modifying agents except the stabilizer.

5.2 Active ingredient

5.2.1 Identity tests

Where the identity of the active ingredient is in doubt, it shall be determined in accordance with clause 4.1.2 of ES 944 and it shall comply with at least one additional test.

5.2.2 Alachlor

The alachlor content shall be declared (not less than 900 g/kg) and, when determined in accordance with clause 4.1.3 of ES 944, the content obtained shall not differ from that declared by more than ± 25 g/kg.

5.3 Impurities

5.3.1 Acetone insolubles

When determined in accordance with ES 737, the maximum amount of acetone insoluble matter shall be 0.2 g/kg.

5.3.2 Water

When determined in accordance with clause 4.1 of ES 749, the maximum water content shall be 3.0 g/kg.

5.3.3 2-chloro-2',6'-diethylacetanilide (2-chloro-*N*-(2,6-diethylphenyl) acetamide)

When determined in accordance with WD 5766, the maximum amount of 2-chloro-2',6'-diethylacetanilide (2-chloro-*N*-(2,6-diethylphenyl) acetamide shall be 30 g/kg.

5.3.4 2- sec-butyl-2-chloro-6-ethyl-N (methoxymethyl) acetanilide (2-chloro-N-{2-ethyl-6-(1-methylpropyl)-N-(methoxymethyl) acetamide.

When determined in accordance with WD 5767, the maximum amount of 2 -sec-butyl-2-chloro-6-ethyl-N-(methoxymethyl) acetanilide (2-chloro-N-{2-ethyl-6-{1-methylpropyl}-N-(methoxymethyl)acetamide shall be 19g/kg.

5.3 Physical and Chemical Properties

5.3.1 Acidity

When determined in accordance with clause 6.1 of ES 750 the maximum acidity, calculated as content shall be 2.0g/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	Clear liquid	visual
2	Solubility - In water at 22 °C (mg l ⁻¹)	0.0242 g/100 mL	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)	39.5 °C (103.1 °F; 312.6 K)	OECD 105, OPPTS
5	Boiling point (°C)	404 °C (759 °F; 677 K)	796.1840, EEC A.6
6	Flashpoint (°C)	< 40°C	ES 760
7	Specific gravity (g ml ⁻¹)	1.133 g/cm ³	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

Annex A

(informative)

Toxicology information of alachlor

- Combined rat: Possible adverse effect;
- Chronic rat: Possible adverse effect;
- Chronic dog: No adverse effect;
- Oncogenicity rat: Possible adverse effect;
- Oncogenicity mouse: Possible adverse effect;
- Reproduction rat: No adverse effect;
- Teratology rat: No adverse effect;
- Teratology rabbit: No adverse effect;
- Gene mutation: No adverse effect;
- Chromosome: No adverse effect;
- DNA damage: Possible adverse effect; and
- LD50, mg/l:930.

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

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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More Information?

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