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भारतीय मानक मसौदा

ब्यूटाक्लॉर ईमलसीफ़ाईऐबल कान्सन्ट्रैट (ईसी) — विशिष्टि

(*आइ एस 9356 का पहला पुनरीक्षण*)

Draft Indian Standard

BUTACHLOR EMULSIFIABLE CONCENTRATE (EC) — SPECIFICATION

(*First Revision of IS 9356*)

ICS No. 65.100.20

Pesticides Sectional Committee, FAD 01 **Last Date of Comments: 3 July 2024**

FOREWORD

(*Formal clauses will be added later*)

Butachlor is a herbicide used in the formulations meant for agriculture.

Butachlor emulsifiable concentrate (EC) is generally manufactured to contain 50 percent (*m*/*m*) of butachlor.

This standard was published in 1980. In this revision, the standard has been brought out in the latest style and format of the Indian Standards, and references to Indian Standards wherever applicable have been updated. It also incorporates three amendments issued to the previous version of this standard.

In the preparation of this standard, due consideration has been given to the provisions of the *Insecticides Act*, 1968 and the Rules framed thereunder. However, this standard is subject to the restrictions imposed under these, wherever applicable.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022. 'Rules for rounding off numerical values (*second revision*)' This number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1 SCOPE

This standard prescribes requirements and the methods of sampling and test for butachlor, emulsifiable concentrate (EC).

2 REFERENCES

The following Indian Standards contain provisions which through reference in this text, constitute provision of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	*Title*
IS 1070 : 2023	Reagent grade water — Specification (*fourth revision*)
IS 1448 (Part 20) : 2019	Methods of test for petroleum and its products [part 20] determination of flash point - Abel closed - Cup method (*third revision*)
IS 6940 : 1982	Methods of test for pesticides and their formulations (*first revision*)
IS 8190 (Part 2) : 1988	Requirements for packing of pesticides: Part 2 Liquid pesticides (*second revision*)
IS 9355 : 202X	Butachlor, technical — Specification (*first revision*) [*Under preparation Doc: FAD 01(25474)WC*]
IS 10627 : 1983	Methods for sampling of pesticidal formulations

3 REQUIREMENTS

3.1 Constituent

The material shall consist of butachlor, technical, dissolved in suitable solvents), together with emulsifying agent(s), and with or without stabilizer(s) and/or coupler(s).

Butachlor, technical, employed in the manufacture of this material shall conform to IS 9355.

3.2 Physical

The material shall comply with the following physical requirement.

3.2.1 *Description*

The material shall be a homogeneous stable liquid, free from sediment. Suspended matter shall be negligible. On dilution with water, it shall readily form a suspension suitable for spray.

3.2.2 *Cold Test*

No turbidity or separation of solid or oily matter shall occur when the material is subjected to the cold test at 10 °C as mentioned in IS 6940, or at any other lower temperature as agreed to between the purchaser and the supplier.

3.2.3 *Flash Point* (*Abel*)

When determined by the method prescribed in IS 1448 [Part 20], the flash point of the material shall be above 24.5 °C.

3.2.4 *Emulsion Stability*

Any separation, including creaming at the top and sedimentation at the bottom, of 100 ml of emulsion prepared in standard hard water with 5 ml of the concentrate for public health use and 2.0 ml of concentrate for agricultural use, shall not exceed 2.0 ml when tested by one of the methods prescribed in IS 6940.

3.3 Chemical

The material shall comply with the chemical requirements specified in **3.3.1** and **3.3.2**.

3.3.1 *Butachlor Content*

When determined by the method prescribed in Annex A of IS 9355, the observed butachlor content, percent (*m*/*m*), of any of the samples shall not differ from the nominal value by more than the percent tolerance applied to the declared nominal value as given below:

Nominal Value, percent	*Tolerance limit, percent*	
Up to 9	+10 − 5	of the nominal value
Above 9 and below 50	±5	
50 and above	+5 − 3	

The actual value of butachlor content shall be calculated to two decimal places and then rounded off to one decimal place before applying the tolerance.

3.3.2 *Acidity or Alkalinity*

When tested by the method prescribed in IS 6940, the acidity (as H_2SO_4) or alkalinity (as NaOH) of the material shall be not more than 0.1 and 0.1 percent by mass respectively.

4 PACKING

The material shall be packed as per requirements given in IS 8190 (Part 2).

5 MARKING

5.1 The containers shall be securely closed and shall bear legibly and indelibly the following information:

a) Name of the material;
b) Name and address of the manufacturer;
c) Batch number;
d) Date of manufacture;
e) Date of expiry;

f) Net quantity;
g) Nominal butachlor content, percent (*m*/*m*);
h) Cautionary notice as worded in the *Insecticides Act*, 1968, and Rules framed thereunder; and
j) Any other information required under the *Legal Metrology* (*Packaged Commodities*) *Rules*, 2011.

5.2 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

6 SAMPLING

When freshly manufactured material in bulk quantity is offered for inspection, representative samples of the material shall be drawn and tested as prescribed in IS 10627 within 90 days of its manufacture. When the material is offered for inspection after 90 days of its manufacture, sampling shall be done as prescribed in IS 10627. However, the criteria for conformity of the material when tested, shall be the limits of tolerances, as applicable over the declared nominal value and given under clause **3.3.1** of the standard.

7 TESTS

7.1 Tests shall be carried out by appropriate methods as referred in **3.2.1** to **3.2.4**, **3.3.1** and **3.3.2**.

7.2 For the determination of butachlor content, start with 0.6 to 0.7 g of the sample.

Note - Several chlorinated impurities normally present in butachlor, technical, yield significant amount of chlorine under the conditions required to dechlorinate butachlor. The true assay by gas liquid chromatograph is typically 89 to 92 percent of the chlorine assay by aniline reflux. It is therefore, necessary for the analyst to be given correction factor '*f*' for a particular batch of emulsifiable concentrate in question. The correction factor '*f*' may then be utilized to arrive at a true butachlor assay.

8 QUALITY OF REAGENTS

Unless specified otherwise, pure chemicals and distilled water (*see* IS 1070) shall be employed in tests.

NOTE – 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the results of analysis.