

Proposed Draft, Indian Standard Triacontanol 0.05% GR (w/w) SPECIFICATION

FOREWORD

Triacontanol GR is used for Improving the plant growth and yield of agricultural crop plants. Triacontanol GR is generally manufactured to contain 0.05 per cent (min.) w/w Triacontanol.

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 the Act and Rules 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: 1960 Rules for rounding off numerical values (revised). The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

4. SCOPE

This standard prescribes the requirements and the methods of sampling and test for Triacontanol, GR

5. REFERENCES

The following Indian Standards are necessary adjunct to this standard.

Indian Standard Number	Title
6940 : 1982	Methods of Test for pesticides and their formulation (Second revision)
10627:1983	Methods for Sampling of Pesticidal formulation
8190 (Part 2):1988	Requirements for packing of Pesticides: Part 2: Liquid Pesticides (Second revision)

continued 2/-

6. REQUIREMENTS

6.1 Constituents

- 6.1.1 The material shall consist of Triacontanol as active ingredient impregnated on suitable carrier (s), together with binder(s) , stabiliser(s) and / or other formulant(s).

6.2 PHYSICAL

3.2.1 Description

The material shall be in the form of a dry free flowing bentonite or other suitable carrier granules, free from visible extraneous matter and dust except for the amount specified. It may contain added colouring matter. When dusted from a granule applicator, the material shall come freely without clogging or bridging the apparatus.

3.3 CHEMICAL

The chemical shall also comply with the requirements given in Table 1

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(3)

**TABLE 1 Requirements/ Specifications of Triacontanol 0.05 % GR (w/w)
(Clause 3.3)**

S. No.	Characteristic	Requirement	Method of Test Ref To	
			Annex of this Standard	Clause No. IS: 6940 : 1982
(1)	(2)	(3)	(4)	(5)
1	Triacontanol content, Per cent by mass, min.	0.05	A	---
2	Bulk density g / cc	1.0 - 1.2	---	
3	Particle size	Not less than 90 % by mass shall pass thru' 1.7 mm IS sieve and not more than 5 % by mass of product shall pass thru 710 micron sieve	---	12.2

8 PACKING

The material shall be packed in poly bags as per requirements given in IS : 8190 (part II) 1980.

The general requirements given in IS:8190 (Part 2) : 1988 shall also be followed.

9 MARKING

The containers shall bear legibly and indelibly the following information in addition to any other information as is necessary under the Insecticides Act, 1968 and Rules framed there under:

- i) Name of the material
- j) Name of the manufacturer
- k) Date of the manufacturing and Date of Expiry
- l) Batch Number
- m) Triacontanol, per cent (m/m);
- n) Net mass of the contents
- o) Directiond for Use and
- p) The minimum cautionary notice as worded in the Insecticides Act, 1968 and Rules framed thereunder

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10 SAMPLING

Representative samples of the material shall be drawn according to IS:10946: 1984

11 TESTS

7.1 Tests shall be carried out by the methods referred to in column 4 and 5 of the Table 1.

11.2 Quality of reagents

Unless specified otherwise, pure chemicals and distilled water (See IS 1070 :1992) shall be employed in tests

Note - "Pure chemicals" shall mean chemicals that do not contain impurities which affect the result of analysis.

ANNEXURE A

Method of Analysis of Triacontanol Formulation GR

Scope	:	Quantification of active ingredient Triacontanol by GLC
Conditions	:	
Column	:	OV - 101 , 50 cms, 5 % chromosorb W, HP 80 -100 mesh
Oven temperature	:	280 °C
Injector temp	:	300 °C
Detector temp.	:	310 °C
Injection Volume	:	2 µl
Run	:	ISOTHERMAL

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Preparation of Standard solution

Accurately about 25 mgs of Triacontanol standard into a 25 ml volumetric flask. Dissolve the contents in Chloroform solvent AR grade. and make up to mark.

Preparation of Sample solution

Accurately weigh about 25 gms of the product (granules 0.05 %) in a 250ml round bottom flask. Add 150 ml acetone solvent and fix condensor with a provision for water circulation. Keep round bottom flask with condensor on a water bath for reflux. Switch on the water bath and start water circulation. Keep the heating and water circulation ON for six hours. After completion, remove round bottom flask from waterbath and filter total solution using ordinary filter paper. Wash granules five to six times by warm acetone. Collect all filtrate in beaker and evaporate to dryness. After evaporation, dissolve remaining residue in chloroform and filter solution to make a clear solution using filter paper and wash with warm acetone and make upto 25 ml volume with chloroform in a std. Volumetric flask.

Analysis

Equilibrate the system and check the stability of the instrument. Inject 2 ul of standard solution followed by Sample solution. Calculate the peak area and quantify the active ingredient content. Repeat the above operation for checking reproducibility.

Calculation

$$\% \text{ Triacontanol content by mass} = \frac{A1}{A2} \times \frac{M2}{M1} \times P$$

A1 = Peak area of Triacontanol in sample solution

A2 = Peak area of Triacontanol in standard solution

M1 = mass in gms of the sample taken for the test

M2 = mass in gms of standard triacontanol taken for the test.

P = Purity of standard