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IS 8944 (2005): Chlorpyrifos Emulsifiable Concentrates [FAD
1: Pesticides and Pesticides Residue Analysis]



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“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक
क्लोरोपाइरीफॉस, ई.सी. — विशिष्टि
(पहला पुनरीक्षण)

Indian Standard
CHLORPYRIFOS, EMULSIFIABLE CONCENTRATES —
SPECIFICATION
(*First Revision*)

ICS 65.100.10

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Pesticides and Pesticides Residue Analysis Sectional Committee had been approved by the Food and Agriculture Division Council.

Chlorpyrifos, EC is used for the control of insect pest and is generally manufactured to contain 20 percent *m/m* and 50 percent *m/m* of chlorpyrifos.

In 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 *Insecticides Act*, 1968 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.

Indian Standard

CHLORPYRIFOS, EMULSIFIABLE CONCENTRATES — SPECIFICATION

(*First Revision*)

1 SCOPE

This standard prescribes the requirements and the methods of sampling and test for chlorpyrifos, EC.

2 REFERENCES

The following standards contain provisions which through reference in this text, constitute provisions 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:

<i>IS No.</i>	<i>Title</i>
1070:1992	Reagent grade water (<i>third revision</i>)
1448 [P : 20] : 1998	Methods of test of petroleum and its products: [P : 20] Determination of flash point by Abel apparatus (<i>second revision</i>)
6940:1982	Methods of test for pesticides and their formulation (<i>first revision</i>)
8190 (Part 2) : 1988	Requirement for packaging of pesticides: Part 2 Liquid pesticides (<i>second revision</i>)
8963:1978	Chlorpyrifos, technical — Specification
10627:1983	Methods of sampling of pesticide formulations

3 REQUIREMENTS

3.1 Constituents

3.1.1 The material shall consist of chlorpyrifos, technical dissolved in suitable solvent(s) together with emulsifying agent(s).

3.1.2 Chlorpyrifos, technical employed in the manufacture of the material shall conform to IS 8963.

3.2 Physical

The material shall comply with the physical requirements specified in 3.2.1 to 3.2.4.

3.2.1 Description

The material shall be homogeneous and stable liquid. Sediments and/or suspended matter shall be negligible. On dilution with water, it shall readily form an emulsion suitable for spray.

3.2.2 Cold Test

No turbidity or separation of solid or oily matter or both shall occur when the material is subjected to the cold test at 10°C as prescribed in 13.1 of IS 6940 or 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 [P : 20], the flash point of the material shall be minimum 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 2.0 ml of EC shall not exceed 2.0 ml when tested by the method prescribed in 13.3 of 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 Chlorpyrifos Content

When determined by the method prescribed in Annex A or B of IS 8963, the observed chlorpyrifos content, percent (*m/m*), of any of the samples shall not differ from the declared nominal value by more than the percent tolerance limits given below:

<i>Nominal Value, Percent</i>	<i>Tolerance Limits, Percent</i>	
Up to 9	+ 10 — 5	} of the nominal value
Above 9 and below 50	± 5	
50 and above	+ 5 — 3	

The actual value of chlorpyrifos content in formulation shall be calculated to the second

decimal place and then rounded off to first decimal place before applying the tolerance limits.

3.3.2 Acidity (as H_2SO_4)

When tested by the method prescribed in 11.3 of IS 6940, acidity (as H_2SO_4) shall be 0.05 percent by mass, *Max*.

4 PACKING

The material shall be packed in clean and dry containers made of PET or mild steel/tin plate properly and suitably lacquered from inside. The general requirements given in IS 8190 (Part 2) shall also be followed.

5 MARKING

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

- 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 mass of contents;
- g) Nominal chlorpyrifos content, percent (*m/m*);
- h) Cautionary notice as worded in *Insecticides Act*, 1968 and Rules framed thereunder; and
- j) Any other information required under the *Standards of Weights and Measures (Packaged Commodities) Rules*, 1977.

5.2 BIS Certification Marking

The product may also be marked with the

Standard Mark.

5.2.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act*, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

6 SAMPLING

When freshly manufactured material in bulk quantity and/or the retail pack of the formulated product is /are offered for inspection, representative sample of the material shall be drawn and tested as prescribed in IS 10627 and if tested within 90 days of its date of manufacture, the criteria for conformity shall be the content in percent (*m/m*) shall not be less than the declared nominal value. The upper limit for conformity shall be the same as those given in 3.3.1.

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 limit of tolerance, as applicable over the declared nominal value and given in 3.3.1.

7 TESTS

7.1 Tests shall be carried out by the appropriate methods referred in 3.2.2 to 3.2.4, 3.3.1, 3.3.2 and 6.

7.2 Quality of Reagents

Unless specified otherwise, pure chemicals and reagent grade 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.

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110 002
Telephones : 2323 0131, 2323 3375, 2323 9402 Website : www.bis.org.in

Regional Offices :

	Telephones
Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110 002	{ 2323 7617 2323 3841
Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, Kankurgachi KOLKATA 700 054	{ 2337 8499, 2337 8561 2337 8626, 2337 9120
Northern : SCO 335-336, Sector 34-A, CHANDIGARH 160 022	{ 2603 843 2609 285
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