



**PRODUCT MANUAL
FOR ALACHLOR EMULSIFIABLE CONCENTRATE
ACCORDING TO IS 9354 : 1980**

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1.	Product	:	IS 9354 : 1980
	Title	:	Specification for Alachlor Emulsifiable Concentrates
	No. of Amendments	:	02
2.	Sampling Guidelines:		
a)	Raw material	:	Alachlor, technical employed in the formulation of Alachlor Emulsifiable Concentrate shall conform to IS 9353.
b)	Grouping guidelines	:	NA (No varieties for the product mentioned in IS)
c)	Sample Size	:	500 ml (In original packaging)
3.	List of Test Equipment	:	Please refer ANNEX – <u>A</u>
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – <u>B</u>
5.	Possible tests in a day :		
	i. Description ii. Cold Test iii. Flash point (Abel) iv. Emulsion Stability v. Alachlor content vi. Acidity		
6.	Scope of the Licence :		
	“Licence is granted to use Standard Mark as per IS 9354 : 1980 with the following scope:		
	Name of the product	:	Alachlor (50 %) Emulsifiable Concentrate

ANNEX – A
TO PRODUCT MANUAL
FOR ALACHLOR EMULSIFIABLE CONCENTRATE
ACCORDING TO IS 9354 : 1980

LIST OF TEST EQUIPMENT

Major test equipment required to test as per the Indian Standard

Sl. No.	Tests used in with Clause Reference	Test Equipment
1.	Cold Test Cl 2.2.2 (Cl 13.1 of 6940)	100 ml glass container with cork/stopper fitted with thermometer, Thermometer Range – 10 to 110 ⁰ C, Refrigerator, Analytical balance with range of 0 to 200gm & Least count of 0.1mg, water bath, Ice-cold water.
3.	Flash Point (Abel) Cl 2.2.3 {IS 1448 (Part 20)}	Cleaning solvent, Coolant, Lubricant, Verification Liquids, Ignitor and pilot light gas, Flash point apparatus/Abel flash point apparatus consisting of test cup, cover assembly, heating vessel, heating device, flash detector, Stirrer, Thermometers 2 (one for the oil cup of range; - 35 ⁰ C to +70 ⁰ C, and another for the water bath of the range; -30 ⁰ C to +80 ⁰ C), Timing device, Barometer, External cooling bath, Test cup thermal insulating cap, Abel flash point apparatus provided with a stirrer & thermometer, Heating Vessel or bath, Ethylene Glycol.
4.	Emulsion Stability Cl 2.2.4 (Cl 13.3 of IS 6940)	Glass Beaker, Capacity 250ml with internal diameter of 6.0 to 6.5 cm and marked at 100 ml, Analytical Balance- Range 0 to 200gms, LC 0.1mg, Mohr-type pipette, 2ml/ 5 ml capacity/ Dropping funnel, Measuring Cylinder, graduated, Capacity 0 to 100ml , Least count 0.5ml, Stop watch 0 to 60 minutes, least count 1sec, Glass Rod, Water Bath with thermometer or digital temp indicator to maintain at 30 ± 1 ⁰ C, Beaker (250 ml), Standard Hard Water, Air conditioner, Hot plate.
5.	Alachlor Content Cl 2.3.1 (Appendix A of IS 9353)	Gas chromatographic method: Apparatus: Gas Liquid Chromatograph - equipped with either a thermal conductivity or a flame ionization detector and a suitable recorder with an electronic integrator. Micro-syringe - 5 or 10 µl capacity, Analytical balance (0-200 gm, LC-0.01 mg) Reagents: Standard Reference Alachor of known 99 percent plus purity Chloroform or Acetone, Internal Standard Solution,
6.	Acidity Cl 2.3.2 (Cl 13.5 of IS 6940)	Analytical Balance, Hot plate/ Heating mantle/Water bath, Litmus paper & Whattman Filter.

		Glassware: Conical Flask, Graduated Cylinder, Burette, Test Tube and Pipette Reagents: Methyl red indicator solution-aqueous – one percent (m/v), Bromocresol purple indicator solution one percent (m/v) in ethyl alcohol, Standard Sodium Hydroxide Solution – 0.05 N, Standard Hydrochloric acid - 0.05 N, Acetone and Distilled water
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The above list is indicative only and may not be treated as exhaustive.

ANNEX – B

**SCHEME OF INSPECTION AND TESTING
FOR ALACHLOR EMULSIFIABLE CONCENTRATE
ACCORDING TO IS 9354 : 1980**

1. LABORATORY - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare a calibration plan for the test equipments.

2. TEST RECORDS – The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. PACCKING AND MARKING – The Standard Mark, as given in the Schedule of the licence, shall be stencilled/printed on each container of Alachlor EC or printed on the label applied to it, as the case may be, provided always that the material in each container to which this mark is thus applied, conform to every requirement of the specification.

3.1 Packing and marking shall be done as per clause 3.1 and 3.2 of IS 9354. In addition, the following details shall be mentioned on each container legibly and indelibly:

a) BIS Licence No. CM/L _____.

b) BIS website details i.e – “For details of BIS certification please visit www.bis.gov.in”.

4. CONTROL UNIT – For the purpose of this scheme, the entire quantity of the material processed in a mixer at a time in one operation shall constitute a control unit.

5. LEVELS OF CONTROL - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

5.1 All the production which conforms to the Indian Standards and covered by the licence should be marked with Standard Mark.

5.2 On the basis of tests and analysis reports, the decision regarding conformity or otherwise of a control unit to a given requirement shall be made as follows:

5.2.1 A sample shall be drawn from each control unit and tested for all the requirements of the specification. If the sample fails in any of the requirements tested, other than Alachlor content and/or emulsion stability, the entire control unit represented by the sample shall be considered unfit for the purpose of marking.

5.2.2 In case the sample drawn from the control unit fails in the requirement of Alachlor content and/or emulsion stability but passes in other requirements, the entire quantity of the material in the control unit may be suitably reprocessed and the defects rectified. Such reprocessed material when tested again, shall conform to all the requirements of the specification before it is marked.

6. Raw Materials – The Alachlor technical, used in the manufacture of Alachlor EC shall conform to IS 9353. A test certificate to that effect shall be obtained from the supplier for each consignment of Alachlor, technical received. Alternatively, a sample from each consignment of the material received shall be tested for its conformity to IS 9373 or ISI marked Alachlor technical may be used.

7. REJECTIONS – Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

TABLE 1
LEVELS OF CONTROL

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Method Cl. Ref.	Test Method IS		No. of Sample	Frequency	Remarks
2.2.1	Description	2.2.1	IS 9354	R	One	Every Control Unit	See clause 5 of SIT
2.2.2	Cold Test	13.1	IS 6940	R	-do-	-do-	
2.2.3	Flash Point (Abel)	-	IS 1448 (Part 20)	R	-do-	-do-	
2.2.4	Emulsion Stability	13.3	IS 6940	R	-do-	-do-	
2.3.1	Alachlor Content	Appendix A	IS 9353	R	-do-	-do-	
2.3.2	Acidity	13.5	IS 6940	R	-do-	-do-	

Note-1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. Subcontracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note-2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.