PRODUCT MANUAL
FOR DICOFOL EMULSIFIABLE CONCENTRATES
ACCORDING TO IS 5279 : 1969

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 5279 : 1969
	Title	:	Specification for Dicofol Emulsifiable Concentrates
	No. of Amendments	:	03
2.	**Sampling Guidelines:**		
a)	Raw material	:	Dicofol, technical employed in the formulation of Dicofol EC shall conform to IS 5278.
b)	Grouping guidelines	:	NA (No varieties for the product mentioned in IS)
c)	Sample Size	:	500 ml
3.	**List of Test Equipments**	:	Please refer ANNEX – A.
4.	**Scheme of Inspection and Testing**	:	Please refer ANNEX – B.
5.	**Possible tests in a day :**		
	i. Description ii. Cold test iii. Flash point (Abel) iv. Emulsion stability v. Dicofol content vi. Acidity/Alkalinity		
6.	**Scope of the Licence :**		
	"Licence is granted to use Standard Mark as per IS 5279 : 1969 with the following scope:		
	Name of the product	Dicofol (--- %) Emulsifiable Concentrates	

ANNEX – A

TO PRODUCT MANUAL
FOR DICOFOL EMULSIFIABLE CONCENTRATES
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LIST OF TEST EQUIPMENT

Major test equipment required to test as per the Indian Standard

Sl. No.	Test used in the Clause Reference	Test Equipment / Chemicals / Glassware
1.	Cold Test Cl 2.2.2 (Appendix A of IS 5279)	100ml transparent glass container with a cork or stopper fixed with thermometer, 100 ml Measuring jar, Cooling bath at maintained at 9°C to 10°C/ ice-cold bath, Stirring rod
2.	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°C to +70°C, and another for the water bath of the range; -30°C to +80°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.
3.	Emulsion Stability Cl 2.2.4 (Appendix B of IS 5279)	**Method 1** 250 ml beaker(int. diameter = 6.0 to 6.5 cm and marked at 100ml), Mohr type pipettes 10ml and 5ml, Glass rod, Graduated Cylinder- 100ml capacity, graduated at each milliliter from 2 to 100ml, Calibrated weighing balance with L.C. 0.001g, Thermostatically controlled bath, Standard hard water **Method 2** Beaker- 250 ml, Dropping funnel, Glass Rod, Graduated cylinder, Thermostatically controlled bath
4.	Dicofol Content Cl 2.3.1 (Appendix C of IS 5279)	Erlenmeyer Flask, Hot plate, Water cooled condenser, Dropper, 400ml beaker, Steam bath, Water bath, Ethyl Alcohol - 95 percent, Ethanolic Potassium Hydroxide- 0·5 N, Concentrated Nitric Acid -.analytical reagent grade conforming to IS 264, Ferric Alum Indicator, Nitrobenzene, Standard Silver Nitrate solution- 0.1 N,

		Standard Ammonium Thiocyanate solution -0.1N, Phenolphthalein Indicator solution.
5.	Acidity or Alkalinity Cl 2.3.2 (Appendix D of IS 5279)	Litmus paper, Measuring jar- 5 ml, marked at 0.5 ml, 250 ml conical flask, Burette, Methyl Red indicator, Standard Sodium Hydroxide solution -0·02 N, Standard Hydrochloric Acid- 0.02 N.

The above list is indicative only and may not be treated as exhaustive.

ANNEXE – B

SCHEME OF INSPECTION AND TESTING

FOR DICOFOL EMULSIFIABLE CONCENTRATES ACCORDING TO IS 5279 : 1969

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 equipment.

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

3. PACKING AND MARKING – The Standard Mark, as given in the Schedule of the licence, shall be stenciled/printed on each container of Dicofol 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 5279. 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 formulated in a mixer at a time 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 requirement tested, other than Dicofol content and

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 taken from the control unit fails in either Dicofol content or emulsion stability or both, the entire material may be suitably reprocessed and the defects rectified. Such reprocessed material, when tested again shall satisfy the requirements where failure has occurred.

6. RAW MATERIAL - The Dicofol Technical used in the formulation of Dicofol EC shall conform to IS 5278. A test certificate to that effect shall be obtained from the supplier for each consignment of Dicofol Technical received. Alternatively, a sample form each consignment of the materials received shall be tested for its conformity to IS 5278 or ISI marked Dicofol Technical may be used. It is recommended that routine analysis of each consignment of other raw material used in the manufacture of Dicofol EC may be carried out and appropriate records maintained.

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**		
Clause	**Requirement**	**Test Method Cl. Ref.**	**Test Method IS**		**No. of Sample**	**Frequency**	**Remarks**
2.1	Constituents	2.1	IS 5279	R	One	Each control unit	
		2.1.1	-do-	S	-do-	Each control unit or every consignment	See clause 6 of SIT
2.2.1	Description	2.2.1	-do-	R	One	Each control unit	See clause 5 of SIT
2.2.2	Cold Test	Appendix A	IS 5279	R	-do-	-do-	
2.2.3	Flash Point (Abel)	-	IS 1448 (Part 20)	R	-do-	-do-	
2.2.4	Emulsion Stability	Appendix B	IS 5279	R	-do-	-do-	
2.3.1	Dicofol Content	Appendix C	-do-	R	-do-	-do-	
2.3.2	Acidity or Alkalinity	Appendix D	-do-	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.