PRODUCT MANUAL
FOR HEXACONAZOLE EC
ACCORDING TO IS 14550 : 1998

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 14550 : 1998
a)	**Title**	:	Hexaconazole EC
b)	**No. of amendments**	:	Nil
2.	**Sampling Guidelines**		
a)	**Raw material**	:	Hexaconazole, technical used in the formulation of Hexaconazole EC shall conform to IS 14549.
b)	**Grouping Guidelines**	:	NA (No varieties for the product mentioned in IS)
c)	**Sample Size**	:	500 ml
3.	**List of Test Equipment**	:	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 iv. Emulsion stability v. Hexaconazole content vi. Acidity or Alkalinity		
6.	**Scope of the Licence :**		
	Licence is granted to use Standard Mark as per IS 14550 : 1998 with the following scope:		
	Name of the product		Hexaconazole ---% EC

ANNEX – A
TO PRODUCT MANUAL
FOR HEXACONAZOLE EC ACCORDING TO IS 14550 : 1998

List of Test Equipment

Major test equipment required to test as per the Indian Standard

Sr. No.	Test Equipment	Test used in with clause reference
1.	Glass container (100 ml)/Beaker with cork fitted with thermometer (0 - 110 °C, L.C. - 0.1 °C) Stirring rod, water bath, Ice cold water.	Cold Test Cl 3.2.2 (Clause 13.1 of IS 6940)
2.	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.	Flash Point Cl 3.2.3 {IS 1448(Part 20}
3.	**Method I** Beaker of capacity 250 ml, with an internal diameter of 6.0 to 6.5 cm and marked at 100ml, Mohr type pipette, Glass rods- 4 to 6 mm in diameter, Graduated cylinder of capacity 100 ml, Standard Hard water, Air conditioner. **Method II** Dropping funnel, remaining equipments same as method I without Mohr type pipette.	Emulsion Stability Cl 3.2.4 (Clause 13.3 of IS 6940)
4.	Gas liquid chromatograph with FID and a printer-plotter cum-integrator. Colunzn - SS, 100 cm length x 2 mm ID packed with 5 percent OV- 101 on chromosorb WHP (80- 100 mesh). Temperature - Column oven 200°C Injection port 250°C Detector 300°C Gas Flow-Carrier gas (Nitrogen) 30 ml/minute. Hydrogen 30 ml/minute; air 300 ml/minute. Nitrogen gas cylinder Volumetric flask -50 ml , 100 ml capacity Micro syringe (2.0 µl capacity) Hexaconazole Standard reference Chloroform (AR grade) Dibutylphthalate (AR grade) Analytical balance (0-200g, LC-0.01mg)	Hexaconazole content Cl 3.3.1 (Annex A of IS 14549)

5.	Analytical Balance (0-200gm, LC 0.1mg) Hot plate/ Heating mantle/ Water bath Whattman Filter Glassware: Conical Flask, Graduated Cylinder, Burette and Pipette Reagents: Methyl red indicator solution-aqueous – 1percemt (m/v) Bromocresol purple indicator solution Standard Sodium Hydroxide Solution – 0.5 N Standard Hydrochloric acid, Acetone, Distilled water	Acidity (as H_2SO_4) or Alkalinity (as NaOH) Cl 3.3.2 (Clause 13.5 of IS 6940)

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

ANNEX - B

SCHEME OF INSPECTION AND TESTING FOR HEXACONAZOLE EC ACCORDING TO IS 14550 : 1998

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 Schedule of the licence shall be stenciled/printed on each container of Hexaconazole EC or printed on the labels applied to the container, as the case may be, provided always that the material in each container to which this mark is thus applied conforms to every requirement of the specification.

3.1 Packing and marking shall be done as per the provision of the Indian Standard. 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 produced in a reaction vessel 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 Hexaconazole content and/or emulsion stability for entire control unit represented by the sample shall be considered unfit for the purpose of marking.

5.2.1 In case a sample taken from the control unfit fails in Hexaconazole 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 confirm to all the requirements of the specification before it is allowed for marking.

6. RAW MATERIAL – Hexaconazole, technical used in the formulation of Hexaconazole EC shall conform to IS 14549. A sample from each consignment of Hexaconazole technical shall be tested for its conformity to IS 14549, alternatively each consignment shall be covered by a test certificate from the supplier guaranteeing its conformity to IS 14549 or ISI marked Hexaconazole 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
3.2.1	Description	3.2.1	IS 14550	R	One	Each control unit	
3.2.2	Cold Test	13.1	IS 6940	R	One	-do-	
3.2.3	Flash Test	-	IS 1448 (Pt-20)	R			
3.2.4	Emulsion stability	13.3	IS 6940	R	One	-do-	
3.3.1	Hexaconazole content	Annex A	IS 14549	R	One	-do-	
3.3.2	Acidity or Alkalinity	13.5	IS 6940	R	One	-do-	

Note-1: 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.

Note -2 : 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 empaneled by the Bureau.