PRODUCT MANUAL
FOR CYFLUTHRIN – EMULSION IN WATER (EW)
ACCORDING TO IS 15228 : 2002

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 15228 : 2002
a)	Title	:	Cyfluthrin – Emulsion in Water (EW)
b)	No. of amendments	:	Nil
2.	Sampling Guidelines		
a)	Raw material	:	Cyfluthrin, Technical employed in the formulation of Cyfluthrin EW shall conform to IS 14156.
b)	Grouping Guidelines	:	NA
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. Dispersion Stability iv. Cyfluthrin content v. Acidity		
6.	Scope of the Licence :		
	Licence is granted to use Standard Mark as per IS 15228 : 2002 with the following scope:		
	Name of the product		Cyfluthrin (5%) EW

BUREAU OF INDIAN STANDARDS
Manak Bhawan, 9, Bahadur Shah Zafar Marg,
New Delhi – 110002

ANNEX-A

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LIST OF TEST EQUIPMENT

Major test equipment required to test as per the Indian Standard

Sr. No.	Test used in with clause reference	Test Equipment
1.	Cold Test Clause 3.2.2 (Cl 13.1 of IS 6940)	100 ml glass container with cork/stopper fitted with thermometer, Thermometer Range – 10 to 110^0C, Refrigerator, Analytical balance with range of 0 to 200 gm & Least count of 0.1mg, water bath, Ice-cold water.
2.	Dispersion Stability Clause 3.2.3	Hard Water, Beaker.
3.	Cyfluthrin content Clause 3.3.1 (Annex A of IS 14156)	Analytical balance (0-200 gm, LC-0.01 mg), 100 ml beaker, G-4 crucible containing a bed of a filter aid, Volumetric flask-50 ml, Acetone Filtration assembly with vacuum pump, Gas Chromatograph, Syringe -10 µl capacity, Gas Chromatograph, Dioctyl adipate, AR Grade (Internal Standard), Cyfluthrin reference standard-of known purity.
4.	Acidity (as H_2SO_4) Clause 3.3.2 (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

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

ANNEX-B

SCHEME OF INSPECTION AND TESTING

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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 Cyfluthrin EW 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 clause 4 and 5 of the Indian Standard IS 15228. 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 results, the decision regarding conformity or otherwise of a control unit shall be taken 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 Cyfluthrin content

and dispersion 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 Cyfluthrin content and/or dispersion stability, but passes in other requirements, the entire material in the control unit may be suitably reprocessed and defect(s) rectified. Such reprocessed material when tested again shall conform to all the requirements of the specification before it is used for marking.

6. RAW MATERIAL - Cyfluthrin technical employed in the formulation of Cyfluthrin EW shall conform to IS 14156. A test certificate to that effect shall be obtained from the supplier for each consignment of Cyfluthrin technical received. Alternatively, a sample from each consignment shall be tested for its conformity to the Indian Standard mentioned above and a record maintained. However, no testing or test certificate may be required if the material is ISI marked.

6.1 Routine analysis (especially moisture content and acidity) of each consignment of other raw materials received in the factory shall 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: Subcontracting permitted	Levels of control		
Cl.	Requirements	Test Methods Cl. Ref.	Test Method IS		No. of sample	Frequency	Remarks
3.2.1	Description	3.2.1	IS 15228	R	One	Each control unit	See clause 5.2.1 & 5.2.2 of SIT
3.2.2	Cold Test	13.1	IS 6940	R	-do-	-do-	
3.2.3	Dispersion stability	3.2.3	IS 15228	R	-do-	-do-	
3.3.1	Cyfluthrin content	Annex A	IS 14156	R	-do-	-do-	
3.3.2	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. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empaneled 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.