PRODUCT MANUAL FOR SPECIFICATION FOR FENVALERATE EC ACCORDING TO IS 11997:1987

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 11997:1987
	Title	:	Fenvalerate EC
	No. of Amendments	:	2
2.	**Sampling Guidelines:**		
a)	Raw material	:	Fenvalerate technical employed shall conform to IS 12003:1987
b)	Grouping guidelines	:	N.A.
c)	Sample Size	:	Minimum 250 ml. (Original sealed container of full pack size)
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) Emulsion Stability iii) Fenvalerate Content vi) Acidity/Alkalinity		
6.	**Scope of the Licence :**		
	"Licence is granted to use Standard Mark as per IS 11997:1987 with the following scope:		
	Name of the product	Fenvalerate -----% EC.	

BUREAU OF INDIAN STANDARDS
ManakBhawan, 9, Bahadur Shah ZafarMarg,
New Delhi – 110002

ANNEX-A

TO PRODUCT MANUAL FOR
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List of Test Equipments

Major test equipment required to test as per the Indian Standard.

Sl No	Test Equipment/ Glassware's/Reagents	Least Count & Range	Test Used	Clause of Standard
1	Glass beaker with a cork or stopper Ice Box with Ice Thermometer Glass stirrer	100 ml capacity Range: - 10 ^{0}C to 50 ^{0}C L.C – 1 ^{0}C	Cold Test	Clause 13.1 of IS 6940:1982
2	Abels Flash point Apparatus with thermometer	Range : -10 ^{0}C to 80 ^{0}C L.C – 0.5 ^{0}C	Flash Point(Abel) Test	Clause 13.2 of IS 6940:1982 and Clause 5 & Clause 7.2 of IS 1448(Part 20):1998
3	Glass Beaker Mohr-type pipette Dropping Funnel	250 ml capacity, 2ml/ 5 ml capacity	Emulsion Stability	Clause 13.3 of IS 6940:1982

	Glass rod (stirrers) Graduated Cylinder Water Bath with thermometer or digital temp indicator to maintain at 30 $\pm$ 1^0C Stop Watch Standard hard water	 Range: 0-100 ml, L.C 1 ml Range: - 10 ^{0}C to 50 ^{0}C L.C – 1 ^{0}C Range: 0-60 min L.C : 1 sec		
4	HPLC with UV Detector as per Annex A-1 of IS 12003:1987 or Gas Liquid Chromatograph (GLC) as per Annex A-2 of IS 12003:1987 Analytical Balance	as per Annex A-1 of IS 12003:1987 as per Annex A-2 of IS 12003:1987 Range: 0-100/200 g L.C : 0.1 mg	Fenvalerate Content	A-1 of IS 12003:1987 A-2 of IS 12003:1987
5	**Glassware's and Chemicals/Reagents for HPLC Method** ***Volumetric Flask*** ***Pipettes (graduated)*** Di-n-butyl ***Phthalate*** - AR Grade (Internal standard). ***Carbon Tetrachloride*** -	 50-ml and IOO-ml capacity. 2-ml, 5-ml and IO-ml capacity.	Fenvalerate Content	A-1 of IS 12003:1987

	Spectroscopic grade. ***Chloroform*** **-** Spectroscopic grade. ***Standard Fenvaierate*** **-** Of known purity			
6	**Glassware's and Chemicals/Reagents for GLC Method** ***Volumetric Flask*** **-** ***Separating Funnel*** ***Microsyringe*** **-** ***Standard Fenvalerate – of known purity*** ***Di (2-ethylhexyl) Phthalate (DBP)*** **-** **AR** grade. ***Chloroform*** **-** Spectroscopic grade.	50-ml and loo-ml capacity. loo-ml capacity. 10 ~1 syringe with a needle of sufficient length **to** introduce the sample close to the top of the column packing.	Fenvalerate Content	A-2 of IS 12003:1987
7	Analytical Balance Hot plate/ Heating mantle/ Water bath Whitman Filter	Range: 0-100/200 g L.C : 0.1 mg	Acidity (as H2So4)	11.3.2 of IS 6940:1982

	Glasswares: 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	200 ml Capacity 0-100 ml/ L.C 1ml		
8	Analytical Balance Test Tube Litmus paper	Range: 0-100/200 g L.C : 0.1 mg	Qualitative test for Alkalinity	11.3.1.1 of IS 6940:1982

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

ANNEX- B
TO PRODUCT MANUAL FOR
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(SCHEME OF INSPECTION AND TESTING)

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 and Licence Number (i.e. CM/L…….) shall be incorporated, and the packing and marking shall be done as per the provisions of the India Standard, provided always that the product thus marked conforms to all the requirement of the specification. In addition, details of BIS website shall be marked as follows: "For details of BIS certification please visit www.bis.gov.in"

3.1 In addition, Batch Number identifying the control unit shall be marked on each product.

4. **CONTROL UNIT -** For the purpose of this scheme, the entire quantity of the material processed in a mixer in one operation shall constitute a control unit (Batch).

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 The sample taken for test from the control unit shall satisfy all the requirements of the specification. If the sample fails in any of the requirements tested other than Fenvalerate content and emulsion stability, the entire control unit represented by the sample shall be considered as unfit for the purpose of marking.

5.2.2 In case the sample taken from the control unit fails in either Fenvalerate technical content or emulsion stability, or both, the entire material may be suitably reprocessed and the defect rectified. Such reprocessed material, when tested again shall satisfy all the requirements of specification.

5.2.3 In respect of all other clauses of the specification and at all stages of manufacture, the firm shall maintain appropriate control and checks to ensure that their product conform to the various requirements of the specification.

6. 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. Any rejected material which is potentially resalable shall be deformed in such a manner that it cannot be used for any other purpose. A separate record shall be maintained giving information relating to all such rejections/defective/substandard material of the production not conforming to the requirements of the Specification and the method of its disposal. Such material shall in no case be stored together with that conforming to the Specification. The Standard Mark (if already applied) on rejected material should be defaced.

Table 1 (Levels of Control)
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(Scheme of Inspection and Testing)

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S:Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Methods			No. of Sample	Frequency	Remarks
		Clause	Reference				
3.2.1	Description	2.2.1 Visual	IS 11997	R	One	Every Control Unit	Please see Clause 5.2.1 of SIT
3.2.2	Cold Test	13.1	IS 6940	R	-do-	-do-	-do-
3.2.3	Flash Point (Abel)	-	IS 1448 (Pt-20)	R	-do-	-do-	-do-
3.2.4	Emulsion Stability	13.3	IS 6940	R	-do-	-do-	Please see Clause 5.2.2 of SIT
3.3.1 & 6	Fenvalerate Content	Annex A	IS 12003	R	-do-	-do-	-do-
3.3.2	Acidity/ Alkalinity	11.3/ 13.5	IS 6940	R	-do-	-do-	Please see Clause 5.2.1 of SIT

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.

Note01: 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.

(or)

The control unit and levels of control as decided by the Bureau are obligatory to which the licensee shall comply with.