PRODUCT MANUAL
FOR PYRETHRUM EC
ACCORDING TO IS 4808:1982

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 4808:1982
	Title	**:**	Specification For Pyrethrum EC
	No. of amendments	**:**	02
2.	**Sampling Guidelines**		
a)	**Raw material**	**:**	Pyrethrum Extracts employed in the manufacture of Pyrethrum EC shall conform to IS 1051.
b)	**Grouping Guidelines**	**:**	NA (No varieties mentioned for the product 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 Cl 2.2.1 ii. Identity Cl 2.2.2 iii. Cold test Cl 2.2.3 iv. Emulsion Stability Cl 2.2.5) v. Flash Point (Cl. 2.2.4)		
6.	**Scope of the Licence :** Licence is granted to use Standard Mark as per IS 4808:1982 with the following scope		
	Name of the product	Pyrethrum EC	

ANNEX –A
TO PRODUCT MANUAL
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LIST OF TEST EQUIPMENT

Major test equipment required to test as per Indian Standard.

Sr. No.	Tests used in with Clause Reference	Test Equipment
1.	Identity Test as per Clause 2.2.2	TLC plates coated with 0.38 mm thick layer of Silica Gel HF 254, Applicator- Standard, Pipettes 5 micro litres, Hair drier or any other arrangement to provide hot air, Developing tank of suitable size and covered on the inside with filter paper, tank is to be provided with a lid to prevent loss of solvent by evaporation, Iodine staining jar—Glass, TLC spotting guide—Standard. Developing solvents- Benzene : Ethyl acetate (95:5 v/v), Iodine --- Crystals, Methyl Alcohol, Standard Pyrethrum oleoresin—of known pyrethrin content, Petroleum Ether (40 – 60 degrees) bp, Synthetic pyrethroid.
2.	**Cold Test as per Cl 2.2.3**	Glass Container (100 ml)/Beaker with Cork/stopper fitted thermometer (range 0 to 25 degree Celsius and LC 1 degree Celsius), stirrer, water bath, Ice-cold water, Transparent liner 100 ml
4	**Flash Point Cl 2.2.4**	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.
5	**Emulsion Stability Test 2.2.5**	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.

6	**Total Pyrethrin Content Cl 2.3**	Reagents – Mercuric Oxide, Sulphuric Acid, Iodine Monochloride, potassium Iodide, Potassium Iodate, Hydrochloric Acid, Chloroform, Alcoholic Sodium Hydroxide, Petroleum Ether, Ethyl Ether, Sodium Hydroxide, Filter Cel, Barium Chloride, Ethyl Alcohol, Sodium Chloride, Phenolphthalein Indicator, Balance, Refrigerator, Gooch filter, Erlenmeyer flask, water bath, hotplate, titration assembly, glass vessels

List above is only indicative and may not be taken 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 equipments.

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 Pyrethrum 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 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 material processed in a mixer 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 shall be marked with Standard Mark.

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.

TABLE 1
LEVELS OF CONTROL

(1)				(2)	(3)		
Test Details				**Test equipment requirement R: required (or)S: Sub-contracting permitted**	**Recommended Levels of Control**		
Cl.	**Requirement**	**Test Method Cl. Ref.**	**Test Method IS**		**No. of Sample**	**Frequency**	**Remarks**
2.1	Pyrethrum Extract	2.1 & 2.1.1	IS 4808 & IS 1051	S	One	Each Consignment received	Alternately, each consignment shall be accompanied by a test certificate from the supplier or a BIS recognized lab guaranteeing its conformity to IS 14159 or shall be BIS certified product.
2.2.1	Description	2.2.1	IS 4808	R	One	Each control unit	
2.2.2	Identity Test	Appendix A	IS 1051	R	-do-	-do-	
2.2.3	Cold Test	13.1	IS 6940	R	-do-	-do-	
2.2.4	Flash Point	-	IS 1448 (Pt 20)	R	-do-	-do-	
2.2.5	Emulsion Stability	13.3	IS 6940	R	-do-	-do-	
2.3	Total Pyrethrin Content	Appendix B	IS 1051	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.