PRODUCT MANUAL FOR PHENTHOATE EC ACCORDING TO IS 8291:1976

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 8291:1976
	Title	:	Phenthoate EC
	No. of Amendments	:	02
2.	**Sampling Guidelines:**		
a)	**Raw material**	:	Phenthoate, technical employed in the manufacture of Phenthoate EC shall confirm to IS 8293.
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) Phenthoate content, Cl 2.3 (iii) Cold Test, Cl 2.2.2 (iv) Flash Point , Cl 2.2.3 (v) Emulsion stability, Cl 2.2.4 (vi) Acidity / Alkalinity, Cl 2.3.2		
6.	**Scope of the Licence**		
	"Licence is granted to use Standard Mark as per IS 8291:1976 with the following scope:		
	Name of the product		Phenthoate 50 % EC

ANNEX – A

TO PRODUCT MANUAL
FOR PHENTHOATE EC ACCORDING TO IS 8291:1976

LIST OF TEST EQUIPMENT

Major test equipment required to test as per the Indian Standard

Sl. No.	Tests used in with Clause Reference	Test Equipment
1	Description Cl 2.2.1	Glass beaker, Tap water
2	Cold Test Cl 2.2.2	Glass Container (100 ml)/Beaker with Cork/stopper fitted thermometer, stirrer, water bath, Ice-cold water.
3	Flash Point Cl 2.2.3	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.
4	Emulsion Stability Cl 2.2.4	Beaker- 250 ml Capacity Beaker, Mohr-Type Pipette/Dropping Funnel, Glass Rod (Dia- 4 to 6 mm), Graduated Cylinder, Standard Hard Water, Air Conditioner.
5	Phenthoate Content Cl 2.3	**Gas Liquid Chromatography method (Referee Method):** Gas Liquid chromatograph fitted with flame ionized detector, Microlitre syringe 10µl, Methanol, Dibutyl phthalate, Dichloromethane, Phenthoate Standard of known purity, Weighing balance, Volumetri flask-25 ml. **Thin Layer Chromatograchy method:** Thin Layer Chromatographic Glass Plates - 20 X 20 cm, Adjustable Thin-Plate Applicator, Chromatographic Spray Bottle, Chromatographic Chamber -.22 X 10 X 22 cm, Oven - with a thermo-regulator,

		Vacuum Rotating Evaporator, Vacuum Filtration Apparatus, Kjeldahl, Digestion Flask - 50 ml capacity. Adsorbent - silica gel G, chromatographic grade. Mixed Solvent, Chromogenic reagent, Benzene, Concentrated Sulphuric Acid, Concentrated Nitric Acid, Dilute Nitric Acid - 1:1. Ammonium Nitrate solution, Molybdate reagent. Weighing balance, pipette, glass crucibles, Ethanol, steam bath, beaker, vacuum desiccator,
6	Acidity/ Alkalinity Cl 2.3.2	Methyl red indicators solution aqueous-one percent. Bromocresol purple indicator solution- one percent (m/v) in ethyl alcohol. Standard Sodium Hydroxide solution -0.05N Standard hydrochloric acid -0.05N Litmus Paper

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

ANNEX - B

SCHEME OF INSPECTION AND TESTING FOR PHENTHOATE EC ACCORDING TO IS 8291:1976

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 stencilled/printed on each container of Phenthoate 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 – The material shall be packed in clean and dry containers made of mild steel or tinplate properly and suitably lacquered from inside. Aluminium containers may also be used. The containers shall also comply with the general requirements as stipulated in 2 of IS 8190 (Part 2).

3.1.1 Retail pack of one litre shall be individually placed in transparent polyethylene bags of minimum thickness of 0.125 mm which shall be closed by heat sealing and shall contain adequate space to collect leakage material, if any.

3.2 Marking- 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 material processed in one 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 should be marked with Standard Mark.

5.2 On the basis of the test results, decision regarding conformity or otherwise of the material to the requirements of the specification shall be made as follows:

5.2.1 A sample shall be drawn from the control unit and tested for all the requirements of the specification. If the sample fails in any of the requirements tested other that the Phenthoate 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 drawn from a control unit fails in the requirements of Phenthoate 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 satisfy all the requirements of the specification before it is marked.

6. RAW MATERIAL – Phenthoate, technical employed in manufacture of Phenthoate EC shall conform to IS 8293. A sample from each consignment of the material received, shall be tested for its conformity to IS 8293 and records maintained. Alternately, each consignment shall be covered by test certificate from the supplier guaranteeing its conformity to IS 8293.

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**
2.2.1	Description	2.2.1	IS 8291	R	One	Each control Unit	
2.3.1	Phenthoate Content	Appendix A	IS 8293	R	One	-do-	
2.2.2	Cold Test	13.1	IS 6940:1973	R	One	-do-	
2.2.3	Flash Test	-	IS 1448 (Pt 20)	R	One	-do-	
2.2.4	Emulsion Stability	13.3	IS 6940	R	One	-do-	
2.3.2	Acidity/Alkalinity	11.3	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. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empaneled by the Bureau.