PRODUCT MANUAL
FOR MALATHION WATER DISPERSIBLE POWDER CONCENTRATES
ACCORDING TO IS 2569 : 1978

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1.	**Product**	:	IS 2569 : 1978
	Title	:	Malathion Water Dispersible Powder Concentrates
	No. of Amendments	:	04
2.	**Sampling Guidelines:**		
a)	**Raw material**	:	Malathion technical employed in the formulation of Malathion Water Dispersible Powder Concentrates shall conform to IS 1832.
b)	**Grouping guidelines**	:	NA (No varieties for the product mentioned in IS)
c)	**Sample Size**	:	500 gm
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) Malathion Content (ii) Material passing through sieve 75 microns (iii) Suspensibility (iv) Acidity (as H_2SO_4)		
6.	**Scope of the Licence :**		
	"Licence is granted to use Standard Mark as per IS 2569 : 1978 with the following scope:		
	Name of the product	Malathion (25%) Water Dispersible Powder Concentrates	

ANNEX – A
TO PRODUCT MANUAL
FOR MALATHION WATER DISPERSIBLE POWDER CONCENTRATES
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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.	Malathion content Cl 2.2 & Table 1 (Appendix A of IS 1832)	Spectrophotometer or Photoelectric Colorimeter – with a blue filter (420 nm) and having 1 cm absorption cell, Malathion- pure of + 98 % purity, Carbon Tetrachloride, Ethyl Alcohol – anhydrous, alternatively methyl alcohol anhydrous may be used, Acetonitrile – boiling range 80 to 82^0C, Sodium Hydroxide, Ferric Chloride, Hydrochloric Acid, Copper Sulphate, Distilled water and glassware Analytical balance (0-200 gm, LC- 0.01 mg), Thermometer.
2.	Material passing through 75 micron IS Sieve Cl 2.2 & Table 1 (Cl 11.1 of IS 6940)	Beaker of 6.0 to 6.5 cm and 250 ml capacity, Pressure assembly, Rubber hose-of about 10 mm internal diameter, Wide mouth bottle with cork or rubber stopper, 4 to 6 mm diameter glass rod, Gooch crucible, Beakers, Camel hair brush or a feather, Weighing Dish, Analytical Weighing Balance (LC- 0.001g), Hot Air Oven capable of maintaining 54+1 ^{0}C, LC 1^0C, tap water, 75 micron IS sieve.
3.	Suspensibility Cl 2.2 & Table 1 (Appendix A of IS 2569)	Graduated cylinder - of capacity 100 ml having the 100 ml mark situated at 18.0 cm $\pm$ cm from the bottom, Pipette -25 ml capacity, Water bath -capable of being maintained at 30 $\pm$ 1^{o}C, Glass fibre filter paper, Standard hard water, Potassium Bromide, Analytical Balance (0-200 gm, LC 0.01 mg), Glass rod, Buchner funnel, Suction Flask, Steam bath, Acetone, Thermometer 0-100°C , LC 1°C, Oven-capable of operating at 55^{o}C.
4.	Acidity (as H_2SO_4) Cl 2.2 & Table 1 (Cl 11.3 of IS 6940)	**Quantitative test:** Analytical Balance (Least count 0.1g) Heating mental / hot plate Test tube, Conical flask, Litmus paper, Sodium

		hydroxide- 0.05 N, Hydrochloric Acid – 0.05 N Methyl red indicator solution, Bromocresol purple indicator. **Electrometric procedure:** Methyl alcohol-distilled, Sodium hydroxide- 0.05 N, Hydrochloric Acid – 0.05 N, Acetone, Buffer solution, pH meter, Analytical balance ((LC 0.1g), Stirring rod, Buchner funnel, filter flask/Conical flask.

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

ANNEX - B

SCHEME OF INSPECTION AND TESTING FOR MALATHION WATER DISPERSIBLE POWDER CONCENTRATES ACCORDING TO IS 2569 : 1978

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 the Schedule of the licence, shall be stenciled/printed on each container of Malathion Water Dispersible Powder Concentrates 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".
c) The minimum cautionary notice as worded in Insecticides Act, 1968 and Rules.

4. CONTROL UNIT – For purpose of this scheme, the entire quantity of material finally blended in a blender 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 a sample fails in respect of Malathion content and/or sieving requirements, the control unit shall be suitably reprocessed and the defects rectified. Such reprocessed material, when tested again, shall satisfy the requirement of Malathion content and/or sieving, as the case may be, before it is used for making.

5.2.2 In case the sample fails in any requirements other than Diflubenzuron content and/or sieving requirement, the control unit shall be considered unfit for the purpose of marking.

6. RAW MATERIALS: Malathion technical used in the formulation of Malathion Water Dispersible Powder Concentrates shall conform to IS 1832. A test certificate to that effect shall be obtained from the supplier for each consignment of Malathion 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.

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**
2.1	Description	2.1	IS 2569	R	One composite sample	Each Control Unit	
2.2 & Table1 (i)	Malathion Content	Appendix A	IS 1832	R	-do-	-do-	
(iii)	Sieving requirement	11.1	IS 6940	R	-do-	-do-	
(iv)	Suspensibility	Appendix A	IS 2569	R	-do-	-do-	
(v)	Acidity (as H_2SO_4)	11.3	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.

Note-3: *A composite sample shall be prepared by mixing together the samples taken from different places in the control unit.