



**PRODUCT MANUAL
FOR MALATHION, TECHNICAL
ACCORDING TO IS 1832 : 1978**

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 1832 : 1978
	Title	:	Malathion, Technical
	No. of Amendments	:	02
2.	Sampling Guidelines:		
a)	Raw material	:	No specific requirements.
b)	Grouping guidelines	:	NA (No varieties for the product mentioned in IS)
c)	Sample Size	:	500 ml (Original sealed container)
3.	List of Test Equipment	:	Please refer ANNEX – <u>A</u>
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – <u>B</u>
5.	Possible tests in a day :		
	(i) Malathion Content (ii) Moisture Content (iii) Acidity (as H ₂ SO ₄) (iv) Description.		
6.	Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS 1832 : 1978 with the following scope:		
	Name of the product	:	Malathion, Technical

ANNEX - A

TO PRODUCT MANUAL
FOR MALATHION, TECHNICAL ACCORDING TO IS 1832 : 1978

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 ⁰ C, Sodium Hydroxide, Ferric Chloride, Hydrochloric Acid, Copper Sulphate, Distilled water and glassware Analytical balance (0-200 gm, LC- 0.01 mg), Thermometer.
2.	Moisture Content Cl 2.2 & Table 1 (Cl 4.1 of IS 6940)	Methanol, Iodine, Pyridine, Sulphur Dioxide along with Karl Fischer Titrator, Sodium Tartarate, 2-Mthoxyethanol, Iodine, Aluminium Sodium Silicate/Activated Silica gel, Silica base grease, Oven, Desiccator, Analytical balance (0-200 gm, LC -0.01 mg) and other glassware as applicable.
03.	Acidity Cl 2.2 & Table 1 (Cl 11.3.2 of IS 6940)	Methyl Red Indicator, Bromocresol Purple Indicator, Ethyl Alcohol, Sodium Hydroxide, Hydrochloric Acid, Acetone, Hotplate, Weighing Balance (0-200 gm, LC- 0.01 mg), Titrator / Burette / pipette
04.	Material insoluble in acetone Cl 2.2 & Table 1 (Cl 9 of IS 6940)	Analytical balance (0-200 gm, LC-0.01 mg), Acetone with Erlenmeyer Flask – 250 ml capacity, and Gooch or sintered-glass crucible of porosity No. 3, Oven (capable of operating at 110 ⁰ C).
05.	Specific Gravity at 25 ⁰ C Cl 2.2 & Table 1 (Cl 5 of IS 6940)	Relative Density bottle -Perkin type Pyknometer tube, Thermometer, Analytical balance (0-200 gm, LC-0.01 mg), Water bath, Arrangement for boiling water.

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

ANNEX - B

**SCHEME OF INSPECTION AND TESTING
FOR MALATHION, TECHNICAL ACCORDING TO IS 1832 : 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 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 Malathion, technical 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 Malathion technical processed/washed, dried, collected and homogenised in batch receiving tank at a time not exceeding a day’s production 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 the sample fails in any of the requirement (s), the material may be suitably reprocessed and the defect(s) rectified. Such reprocessed material, when tested again, shall satisfy all the requirements of the specification before it is considered fit for marking.

6. RAW MATERIAL – Routine analysis of each consignment of raw materials 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: 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 1832	R	One Sample	Each control unit	See clause 5 of SIT
2.2 & Table 1	Malathion Content	Appendix A	-do-	R	-do-	-do-	
-do-	Moisture Content	4.1	IS 6940	R	-do-	-do-	
-do-	Acidity (as H ₂ SO ₄)	11.3.2	-do-	R	-do-	-do-	
-do-	Material insoluble in acetone	9	-do-	R	-do-	-do-	
-do-	Specific Gravity at 25 ⁰ C	5	-do-	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.