



**PRODUCT MANUAL
FOR DIMETHOATE, TECHNICAL
ACCORDING TO IS 3902 : 1975**

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 3902 : 1975
	Title	:	Specifications for Dimethoate, Technical
	No. of Amendments	:	03
2.	Sampling Guidelines:		
a)	Raw material	:	-
b)	Grouping guidelines	:	NA (No varieties for the product mentioned in IS)
c)	Sample Size	:	500ml or 500g
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) Dimethoate content, (ii) Water content (iii)Material insoluble in acetone (iv)Acidity (as H ₂ SO ₄)		
6.	Scope of the Licence :		
	“Licence is granted to use Standard Mark as per IS 3902 : 1975 with the following scope:		
	Name of the product	Dimethoate, Technical	

**ANNEX- A
TO PRODUCT MANUAL
FOR DIMETHOATE, TECHNICAL
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List of Test Equipment

Major test equipment required to test as per the Indian Standard

Sl. No.	Test Equipment	Tests used in with Clause Reference
1.	<p><u>I Infrared Spectrophotometer method</u> Infrared Spectrophotometer, Cesium iodide or potassium bromide absorption Cells, Hypodermic Syringe 5 and 2 ml capacity, Volumetric Flask, Carbon Disulphide-analytical grade, Analytical balance balance (0-200g, LC 0.01 mg), Micron Tester & wave length Tester, Dimethoate standard of known purity.</p> <p style="text-align: center;"><u>OR</u></p> <p><u>II Chromatographic Method</u> Chromatographic Column, Pipette-1 ml, Hyflo Super Cel-analytical grade, Petroleum ether - boiling range from 60 °C to 80°C, isopropyl ether, Diethyl ether, Nitric Acid, perchloric acid-60%, Ammonium Molybedate solution and Ammonium Vanadate Solution.</p>	<p>Dirnethoate content Clause 2.2 Table 1 (Appendix A of IS 3902)</p>
2.	<p>Dean and Stark Method Distillation flask-500 ml, Reflux Condenser, Receiver, Heat Source, Copper wire, Chromic acid cleaning solution, Petroleum naphtha -with a boiling range or 90 to 210°C or n-Heptane -boiling point around 98°C or Toluene-boiling point around 110°C, Analytical balance (0-200g, LC 0.01mg).</p>	<p>Water content Clause 2.2 Table 1 (Clause 4.2 of IS 6940)</p>
3.	<p>Weighing Balance (0-200g, LC 0.01mg), Reflux condenser, Oven capable of maintaining at 110°C, Gooch crucible of porosity No. 3, Erlenmeyer flask-250 ml, Dry Acetone.</p>	<p>Material in soluble in acetone Clause 2.2 Table 1 (Clause 9.1 of IS 6940)</p>
4.	<p>Weighing Balance-(0-200g, LC- 0.01mg), Oven, Conical flask, Burette and pipette, Methyl red indicator -solution-aqueous - one percent (mlv), Bromocresol purple solution-one percent (m/v), NaOH-0.05 N and HCl-0.05 N, Hot plate, Titrator / Burette / pipette.</p>	<p>Acidity (as H₂SO₄) Clause 2.2, Table 1 (Clause 11.3 of IS 6940)</p>

The above list is indicative only and may not be treated 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 stencilled/printed on each container of Dimethoate, 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 the material manufactured out of one single reaction 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 test results, 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 the requirements of the specification. If the sample fails in any of the requirements tested, the entire control unit represented by the sample shall be considered unfit for marking.

5.2.2 The entire quantity of the material in the control unit found failing may be reprocessed and defects rectified. Such reprocessed material when tested again shall satisfy all the requirements of the specification before it is used for marking.

6. RAW MATERIALS – It is recommended that routine analysis of each consignment of the raw materials received in the factory 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 3902	R	-	-	See clause 6 of SIT
2.2, Table 1	Dimethoate content	Appendix A	IS 3902	R	One	Each Control Unit	
2.2, Table 1	Water content	4.2	IS 6940	R	-do-	-do-	
2.2, Table 1	Material insoluble in acetone	9.1	IS 6940	R	-do-	-do-	
2.2, Table 1	Acidity (as H ₂ SO 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. Subcontracting 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.