



**PRODUCT MANUAL
FOR ZINEB WATER DISPERSIBLE POWDERS
ACCORDING TO IS 3899 : 1981**

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 3899 : 1981
	Title	:	Specification for Zineb Water Dispersible Powders
	No. of amendments	:	02
2.	Sampling Guidelines		
a)	Raw material	:	Zineb technical employed in the manufacture of Zineb Water Dispersible Powder shall conform to IS 3898.
b)	Grouping Guidelines	:	NA (No varieties for the product mentioned in IS)
c)	Sample Size	:	500 g
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 ii. Zineb content iii. Sieving requirement iv. Suspensibility v. Wettability vi. Zinc content		
6.	Scope of the Licence: Licence is granted to use Standard Mark as per IS 3899 : 1981 with the following scope:		
	Name of the product	Zineb (75 %) Water Dispersible Powders / Repacked Zineb Water Dispersible Powder	

ANNEX –A

**TO PRODUCT MANUAL
FOR ZINEB WATER DISPERSIBLE POWDERS
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LIST OF TEST EQUIPMENT

Sr. No.	Tests used in with Clause Reference	Test Equipment/Chemicals/Glassware/Reagents
1.	Zineb content Cl 2.2 & Table 1 (Appendix A of IS 3898)	Apparatus as per fig 1 (alternatively fig 2) of IS 3898 Analytical balance, Water bath, Lead Acetate Solution - 10 percent (mlv), Sulphuric Acid -1.1 N, Methanolic potassium hydroxide solution 2N, Dilute acetic acid 30 % v/v, Standard Iodine Solution 0.1 N, Starch indicator solution freshly prepared, Phenolphthalein indicator solution - one percent m/v in 96 percent ethyl alcohol.
2.	Sieving Requirement Cl 2.2 & Table 1 (Clause 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 °C, LC 1°C, tap water, Test sieve (45 micron IS sieve).
3.	Suspensibility test Cl 2.2 & Table 1 (Cl 11.2 of IS 6940)	Beaker (6 to 6.5 cm and 250 ml capacity), Pressure assembly.(25 g/sq cm), Graduated cylinder capacity 250 ml with ground glass stopper, Glass tube , 40 cm long and with an internal diameter of 5 mm, Vacuum pump, Water Bath, Analytical Balance, Calcium Chloride Anhydrous, Magnesium Chloride Hexahydrate, Distilled Water.
4.	Wettability test Cl 2.2 & Table 1 (Cl 11.4 of IS 6940)	Analytical Balance, Stop watch, Beaker - of 6.0 to 6.5 cm and 250 ml capacity, Standard hard water.
5	Zinc content Cl 2.2 & Table 1 (Annex B of IS 8707)	Burette (50 ml / 25 ml capacity) having least count 0.05 ml, Weighing balance, Conical filtration mask (500 ml), Fluorescent light source, Ascorbic acid L + (reagent grade), Buffer solution pH 10, EDTA solution 0.1 M solution, Eriochrome Black T Calcon indicator powder (0.5 percent), Formaldehyde-37 % solution, Potassium cyanide solution 5 percent (m/m).

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

ANNEX - B

SCHEME OF INSPECTION AND TESTING FOR ZINEB WATER DISPERSIBLE POWDER ACCORDING TO IS 3899 : 1981.

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 Schedule of the licence shall be stenciled/printed on each container of Zineb Water Dispersible Powder or printed on the labels applied to the container, as the case may be, provided always that the material in each container to which this mark is thus applied conforms to every requirement of the specification.

3.1 MARKING – The material shall be marked as per clause 3.2 of IS 3899. In addition, the following shall also be marked 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) Name and BIS licence number of original manufacturers of Zineb Water Dispersible powder shall also be mentioned in case of repacking unit.

3.1.2 When bags (above 10 kg) are used for packing the materials, the pictorial marking for “USE NO HOOKS”, as contained in IS 1260 Pictorial markings for handling and labeling of goods Part 2 General Goods shall be marked on each bag.

3.2 PACKING – The material shall be packed as per clause 3.1 of IS 3899.

3.3 The repacker shall maintain details of the repacked material, in format given in table 2.

4. CONTROL UNIT – For the purpose of this Scheme, either of the following shall constitute a control unit:

- a) **Manufacturer:** The entire quantity of Zineb water dispersible powder produced in a reaction vessel at a time shall constitute a control unit.
- b) **Repacker:** The entire quantity of material repacked from a single batch of ISI marked material received shall constitute one 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.

6. RAW MATERIALS – Zineb technical employed in the manufacture of this material shall conform to IS 3898, specification for Zineb, Technical. Each consignment of raw material received, shall be covered by a test certificate from the supplier or manufacturer guaranteeing its conformity to the relevant Indian Standard or shall be ISI marked or alternatively a sample from each consignment shall be tested for the same and 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	Recommended Levels of Control		
Clause No	Requirement	Test Methods Cl. Ref.	Test Method IS		No. of Sample	Frequency	Remarks
2.1.1	Raw Material Zineb Technical (not applicable for repacking units)		IS 3898	S	One	Each Lot received	See clause 6 of SIT
2.1	Description	2.1	IS 3899	R	-do-	Each control unit	
2.2 Table 1 i)	Zineb content	Appendix A	IS 3898	R	-do-	-do-	
ii)	Sieving Requirement	11.1	IS 6940	R	-do-	-do-	
iii)	Suspensibility	11.2	IS 6940	R	-do-	-do-	
iv)	Wettability	11.4	IS 6940	R	-do-	-do-	
v)	Zinc content	Annex B	IS 8707	S	One	Once a month	

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.

TABLE 2
RECORD OF ZINEB WATRE DISPERSIBLE POWDER (REPACKED)
AS PER IS 3899 : 1981

Sl. No.	Name of the manufacturer	Particulars of test reports received with C.U/Batch no.	Date of manufacture	Quantity received	Date of receipt	Date of repacking	U.U./Batch no.	Details of repacking		Total quantity repacked	Details of dispatch
								Size of packing	No.		
1	2	3	4	5	6	7	8	9	10	11	12