



उत्पाद मानुयल
MANCOZEB + CARBENDAZIM, WETTABLE POWDER (WP)
IS 16919:2018 के अनुसार

PRODUCT MANUAL
FOR MANCOZEB + CARBENDAZIM, WETTABLE POWDER (WP)
ACCORDING TO IS 16919:2018

भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम की स्कीम-I के तहत यह उत्पाद मानुयल प्रमाणीकरण के प्रचलन में रीति और पारदर्शिता के सुसंगत सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों एवं लाइसेंस धारियों द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस लाइसेंस/प्रमाण पत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज़ का उपयोग किया जा सकता है।

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.	उत्पाद Product	:	IS 16919 : 2018
	शीर्षक Title	:	मैन्कोजेब + कार्बेन्डाज़िम, आर्द्रकरणीय पाउडर (डब्ल्यू पी) Mancozeb + Carbendazim, Wettable Powder (WP)
	संशोधन संख्या No. of Amendments	:	Nil
2.	नमूनाकरण दिशा निर्देश Sampling Guidelines:		
a)	कच्चा माल Raw material	:	Mancozeb technical shall conform to IS 8707 and carbendazim technical employed in the manufacture of the material shall conform to IS 8445. Each lot shall be accompanied with test certificate from manufacturer or a sample shall be tested in house/ independent lab.
b)	समूहिकरण दिशा निर्देश Grouping guidelines	:	NA (No varieties for the product mentioned in IS)

c)	नमूने का परिमाण Sample Size	:	500 gm
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	कृपया Annex-A देखें Please refer ANNEX – A
4.	निरीक्षण व परीक्षण स्कीम Scheme of Inspection and Testing	:	कृपया Annex-B देखें Please refer ANNEX – B
5.	एक दिन में संभावित परीक्षण Possible tests in a day:		
	i. Physical Test (Description) – Cl 3.2.1 ii. Sieving requirement – Cl. 3.2.2 iii. Suspensibility - Cl. 3.2.3 iv. Determination of Mancozeb content and Carbendazim content - Cl. 3.3.1 v. Wettability- Cl 3.2.4 vi. Acidity or Alkalinity- Cl 3.3.2		
6.	लाइसेन्स का कार्यक्षेत्र/ Scope of the Licence:		
	IS 16919 : 2018 के अनुसार मानक मुहर का उपयोग करने के लिए लाइसेन्स निम्नलिखित कार्यक्षेत्र के लिए प्रदान किया जाता है “Licence is granted to use Standard Mark as per IS 16919 : 2018 with the following scope:		
	उत्पाद का नाम Name of the product	:	Mancozeb..... % + Carbendazim.....%, Wettable Powder (WP)

ANNEX A

TO PRODUCT MANUAL FOR MANCOZEB + CARBENDAZIM, WETTABLE POWDER ACCORDING TO IS 16919 : 2018

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.	Sieving Requirement Cl. 3.2.2	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 0C, LC 10C, tap water, 45 micron IS sieve.
2.	Suspensibility Cl. 3.2.3	Beaker of 6.0 to 6.5 cm and 250 ml capacity, Pressure Assembly, Graduated Cylinder of capacity 250 ml with a ground glass stopper, Glass Tube, Calcium Chloride anhydrous, Magnesium Chloride Hexahydrate, Analytical Balance, Waterbath, Glass rod.
3.	Wettability Cl. 3.2.4	Beaker of 6.0 to 6.5 cm and 250 ml capacity, Weighing Balance, Calcium Chloride anhydrous, Magnesium Chloride Hexahydrate, Stop watch.
4.	Determination of Mancozeb Content Cl. 3.3.1 (Annex A)	Mancozeb Determination assembly, Balance analytical (LC-0.1mg), Carbon disulphide assembly (as per fig 1, 2, 3 and 4 of IS 8707), Glass vial- 15mm x 25mm, Water Circulation system, Vacuum Pump, Standard Glassware, Lead acetate solution- 10% (m/v), Sulphuric Acid- 1.1N, Solution of Potassium Hydroxide in Methanol- 2N, Dilute Acetic Acid- 30% (v/v), Standard Iodine Solution- 0.1N, Starch Indicator Solution- Freshly prepared, Phenolphthalein Indicator Solution- 1 percent (m/v) in 95 % ethyl alcohol.
5.	Determination of Carbendazim Content Cl. 3.3.1 (Annex B)	High performance Liquid Chromatograph (HPLC) equipped with a constant flow pump, a constant volume injector (20µl Loop), ultraviolet (UV) detector adjusted to 283 nm wavelength and a recorder (digital integrator or other data

		handling device), Analytical Balance- LC 1mg, Microlitre Syringe- 25µl capacity, Filtering Apparatus for Sample Standard Solution, Ultrasonic Bath, Standard Glassware, Acetonitrile- HPLC grade, Water- HPLC Grade, Methanol- HPLC grade, Carbendazim Reference Standard- of known purity, Ortho Phosphoric Acid- AR grade (85 percent).
6	Acidity or Alkalinity Cl. 3.3.2	Quantitative test: Analytical Balance (Least count 0.1g) Heating mantle / 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

TO PRODUCT MANUAL FOR MANCOZEB + CARBENDAZIM, WETTABLE POWDER ACCORDING TO IS 16919:2018

SCHEME OF INSPECTION AND TESTING

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. PACKAGING AND MARKING – The Standard Mark, as given in the Schedule of the licence, shall be printed/stencilled on each container of Mancozeb + Carbendazim, Wettable Powder, provided always that the product so marked conform to every requirement of the specification.

3.1 PACKING – The material shall be packed in trilaminated pouches comprising of PET, aluminium foil and LDPE. The pouches shall be heat sealed to make it leak proof and pilfer proof. The trilaminated pouches up to 1 kg capacity shall be inserted in card board carton as secondary pack. All types of containers shall further be packed in corrugated fibreboard boxes as per IS 2771 (Part 1). The container shall also comply with the general requirements specified in IS 8190 (Part 1).

3.2 MARKING – The container shall bear legibly and indelibly the information mentioned under clause 5.1 of IS 16919. In addition, the following details shall be mentioned on each container:

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 Mancozeb + Carbendazim, Wettable Powder taken from the same consignment of raw materials, finally blended in a blender at a time in one operation 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 MATERIAL – Mancozeb technical and carbendazim technical employed in the manufacture of Mancozeb + Carbendazim, Wettable Powder shall conform to IS 8707 and IS 8445. A test certificate to that effect shall be obtained from the supplier for each consignment of Mancozeb technical and carbendazim 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			No. of Sample	Frequency	Remarks
		Cl. Ref.	IS				
3.2.1	Description	3.2.1	IS 16919	R	One	Each Control Unit	
3.2.2	Sieving Requirement	11.1	IS 6940	R	One	-do-	
3.2.3	Suspensibility	11.2	-do-	R	One	-do-	
3.2.4	Wettability	11.4	-do-	R	One	-do-	
3.3.1	Mancozeb Content	Annex A	IS 16919	R	Two	-do-	
	Carbendazim Content	Annex B	-do-	R	Two	-do-	
3.3.2	Acidity or Alkalinity	11.3	IS 6940	R	One	-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.