



**PRODUCT MANUAL
FOR CARBOFURAN GRANULES, ENCAPSULATED
ACCORDING TO IS 9360 : 1980**

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 9360 : 1980
	Title	:	CARBOFURAN GRANULES, ENCAPSULATED
	No. of Amendments	:	03
2.	Sampling Guidelines:		
a)	Raw material	:	Carbofuran technical, employed in the formulation of this material shall conform to IS 11019.
b)	Grouping guidelines	:	NA (No varieties of the product mentioned in IS)
c)	Sample Size	:	1 Kg of sample for complete testing
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) Sieving requirement iii) Dust iv) Encapsulation -Attrition test -Water-run-off test v) Moisture content vi) Acidity		
6.	Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS 9360 : 1980 the following scope:		
	Name of the product	:	Carbofuran Granules, Encapsulated

**ANNEX A
TO PRODUCT MANUAL
FOR CARBOFURAN GRANULES, ENCAPSULATED
ACCORDING TO IS 9360 : 1980**

LIST OF TEST EQUIPMENT

Major test equipment required to test as per the Indian Standard.

S. No	Characteristics	Chemicals and Equipment's
1	Sieving Requirements Cl 2.2.2	Dusting powders, Granules weighing balance rubber cubes sieve
2.	Dust Cl 2.2.3	75-micron IS sieve
2	Encapsulation Cl 2.2.4, Annex A of IS 9359	75-micron IS sieve, burette plugged with cotton/glass wool
4	Moisture content Cl 2.2.6 (Dean and Stark Method) 4.2 of IS 6940	Chromic acid cleaning solution N- Heptane , Toulene , Anhydrous calcium chloride , Distillation flask , reflux condenser , Reciever , Heat source Copper wire , Pumice stone , Guard tube
5	Carbofuran content Cl 2.3.1, Appendix A of 9360	Glycollic Potassium Hydroxide Solution - Boric Acid Solution, Hydrochloric Acid APPARATUS FOR Determnination of Carbofuran Content Graduated cylinder, Erlrmeyer Flask, Nitrogen cylinder
6	Acidity Cl 2.3.2, 11.3 of IS 6940	Methyl red indicatorsolution Bromocresol purple indicator solution Standard sodium hydruxide solution acetone,sodium hydroxide Weighing balance, filter Paper Tritration Funnel with stand, conical flask,

List above is only indicative and may not be taken as exhaustive.

ANNEX-B
SCHEME OF INSPECTION AND TESTING
FOR CARBOFURAN GRANULES, ENCAPSULATED
ACCORDING TO IS 9360:1980

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(s) as given in Column (I) of the first Schedule of the licence shall be stenciled/printed on each container of Carbofuran Granules, Encapsulated 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 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 encapsulated in one booth mixer, dried and sieved 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 the test results, decision regarding conformity or otherwise of the material to the requirements of the specification shall be made as follows:

5.2.1 In case the control unit fails in any of the requirements, except acidity the material represented by the control unit may be suitably reprocessed and the defect (s) rectified. Such reprocessed material shall be tested again as per Table 1 and the material shall satisfy all the requirements of the specification.

5.2.2 In case the sample fails in acidity requirement, the control unit shall be considered unfit for the purpose of marking.

6. 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	Remark
2.1	Constituents	2.1 & 2.1.1	IS 9360 & IS 11019	R	One	Each consignment of Carbofuran Technical	Alternately, each consignment may be accompanied by test certificate from supplier or test report BIS approved lab ensuring its conformity to IS 11019.
2.2.	Physical						
2.2.1	Description	2.2.1	IS 9360	R	One	Each control unit	See cl. 5.2.1 of SIT
2.2.2	Sieving requirement	12.1	IS 6940	R	One	-do-	-do-
2.2.3	Dust	12.1.2.2 Appendix A	IS 6940 IS 9360	R	One	-do-	-do-

2.2.4	Encapsulation						
2.2.4.1	Attrition test	Annex A	IS 9359 & IS 9360	R	One composite sample	One day's production	-do-
2.2.4.2	Water run-off test	Annex B Appendix A	IS 9359 & IS 9360	R	-do-	-do-	-do-
2.2.6	Moisture Content	4	IS 6940	R	One	-do-	-do-
2.3.1	Carbofuran Content	Appendix-A	IS 9360	R	One	-do-	-do-
2.3.2	Acidity	11.3	IS 6940	R	One	-do-	See cl 5.2.2 of SIT

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 empanelled 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.

