



उत्पाद मानुअल
PESTICIDES - PENDIMETHALIN, TECHNICAL – SPECIFICATION
IS 12685: 1989 के अनुसार

PRODUCT MANUAL FOR
PESTICIDES - PENDIMETHALIN, TECHNICAL – SPECIFICATION
ACCORDING TO IS 12685: 1989

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम, 2018 की योजना- I के तहत प्रमाणन के संचालन में अभ्यास और पारदर्शिता के संचालन में पारदर्शिता सुनिश्चित करने के लिए इस उत्पाद मैनुअल का उपयोग सभी क्षेत्रीय / शाखा कार्यालयों और लाइसेंसधारियों द्वारा संदर्भ सामग्री के रूप में किया जाएगा। दस्तावेज़ का उपयोग बीआईएस प्रमाणन लाइसेंस/प्रमाणपत्र प्राप्त करने के इच्छुक संभावित आवेदकों द्वारा भी 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 12685 : 1989
	शीर्षक Title	:	PESTICIDES - PENDIMETHALIN, TECHNICAL – SPECIFICATION
	संशोधन संख्या No. of amendments	:	Nil
2.	नमूनाकरण दिशा निर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	Nil
b)	समूहिकरण दिशा निर्देश Grouping Guidelines	:	Not Applicable
c)	नमूने का परिमाण Sample Size	:	250 g
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	कृपया Annex-A देखें Please refer ANNEX – A
4.	निरीक्षण व परीक्षण स्कीम	:	कृपया Annex-B देखें Please refer ANNEX – B

	Scheme of Inspection and Testing		
5.	एक दिन में संभावित परीक्षण Possible tests in a day		
	3.1 – Description 3.2- Pendimethalin Content 3.2 – Material Insoluble in acetone 3.2 - Acidity(as H ₂ SO ₄) / Alkalinity(as NaOH)		
6.	लाइसेन्स का कार्यक्षेत्र/ Scope of the Licence :		
	Licence is granted to use Standard Mark as per IS 12685 : 1989 with the following scope:		
	Name of the product	Pesticides - Pendimethalin, Technical	

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9, BAHADUR SHAH ZAFAR MARG,
NEW DELHI-110002

ANNEX A
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	3.1 Description	Visual Observation
2	3.2 Table 1 Sr no. 1, Pendimethalin content, percent by mass, Min GLC Method (referee Method) Spectro-photometric Method	Gas Liquid Chromatograph Equipped with detector, column, column injection system, flame ionization detector, glass wool, strip chart recorder, electronic integrator, gas flow adjustor as per clause A – 2.2.1 of Annex A of IS 12685 Weighing Balance Volumetric Flasks with Stoppers Pipette Sintered Glass Funnel (G3or4) Refrigerator (recommended) Standard Reference Pendimethalin Internal Standard- p-terphenyl (p-diphenyl benzene) Acetone – A.R Grade Chloroform – A.R Grade Spectrophotometer Thin-Layer Chromatography (TLC) Plates, 200 mm x 200 mm, coated with silica gel G or equivalent Lambda pipette 500, micro litre Centrifuge with tubes, stoppered Developing tank Weighing Balance Volumetric flasks with stoppers Sintered Glass Funnel (G3or4) silica gel G or equivalent Chloroform AR grade Petroleum Ether , (30-60 C BP) Methyl Alcohol AR grade Triethylamine – AR grade Pendimethalin Reference Standard, of known purity or secondary standard of 90 percent (m/m), minimum purity Butter paper Spatula with a straight, sharp end Rubber policeman Pipette
3	3.2 Table 1 Sr no. 2, Material insoluble in acetone, percent by mass, Max	Weighing Balance Erlenmeyer flask with ground glass joint Dry acetone Distillation and condensation assembly with reflux

		Hot Plate Gooch or sintered glass crucible – porosity no. 3 Oven
4	3.2 Table 1 Sr no. 3 , Acidity (as H ₂ SO ₄), percent by mass, Max Alkalinity (as NaOH), percent by mass, Max	Distilled Water pH paper Weighing balance Methyl red indicator Aq.solution/ Bromocresol purple indicator solution in ethyl alcohol Standard Sodium Hydroxide solution Standard Hydrochloric acid solution Conical flasks Acetone Hot plate Distilled water Burette Filter paper Or Electrometric Titrators may also be used
5	3.2 Table 1 Sr no. 4, Melting Point	Long stem-short bulb thermometer of 0-200 degree C and least count 0.5 degree C a suitable chamber with a glass front and illumination 50-ml Kjeldahl flask with stopper Paraffin Suitable mounting Gas Burner Dessicator Silica Gel/P ₂ O ₅ Capillary Tubes – one end sealed Hot water Bath
6	As Required for testing and sampling as per IS 10946, IS 6940 and IS 12685	General Laboratory Glasswares

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

ANNEX B
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 and implement 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. LABELLING AND MARKING – The information as mentioned under clause 4.2 of IS 12685:1989 shall be legibly and indelibly marked on the label of the container. 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 Pesticides - Pendimethalin, Technical manufactured under similar conditions in a single day 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.

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. Such material shall in no case be stored together with that conforming to the specification

TABLE 1 (Levels of Control)
(Para 5 of Scheme of Inspection and Testing)

(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
		Clause	Reference				
3.1	Description	3.1	IS 12685	R	One	Each Control Unit	-
3.2	Pendimethalin content	Annex A	IS 12685	R	One	Each Control Unit	-
3.2	Material insoluble in acetone	9	IS 6940	R	One	Each control unit	-
3.2	Acidity (as H2SO4) / Alkalinity; as NaOH	11.3	IS 6940	R	One	Each Control Unit	-
3.2	Melting Point	6	IS 6940	R	One	Each Control Unit	-

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.