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उत्पाद मैनुअल
1,3 फेंयलेनेडाईएमीन - विशिष्टि
17450: 2020 के अनुसार

PRODUCT MANUAL FOR
1, 3 PHENYLENEDIAMINE – SPECIFICATION
ACCORDING TO IS 17450: 2020

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो(अनुरूपता मूल्यांकन) विनियम, 2018 की योजना -I के तहत प्रमाणन के संचालन में एकरूपता और पारदर्शिता 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 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 uniformity 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.

1.	**मानक संख्या** **IS No.**	:	IS 17450 : 2020
	शीर्षक **Title**	:	1,3 फेंयलेनेडाईएमीन- विर्शिष्टि 1,3 Phenylenediamine - Specification
	संशोधनों की संख्या **No. of amendments**	:	2
2.	**नमूना दिशानिर्देश** **Sampling Guidelines**		
a)	**कच्चा माल** Raw material	:	No specific requirement. Note: This section indicates the requirements for raw material (if specified in the IS) for which compliance is to be established during Grant of Licence / Change in Scope of Licence/Factory Surveillance
b)	**समूहीकरण दिशानिर्देश** **Grouping Guidelines**	:	Each Grade to be tested to get that respective grade included in the scope of the licence.
c)	**नमूने का परिमाण** **Sample Quantity**	:	250 g. Note: This section indicates the quantity of the sample of the product and/or the raw material (if applicable), required to be sent to the laboratory for testing, for the purpose of Grant of Licence/Change in Scope of Licence/ Factory Surveillance (in case of market surveillance, effort may be made to

			procure therequired quantity of product sample, as far as possible since raw material sample may not be available in market)
d)	**परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर** **Parameters to be Declared in Test Request**		Grade Note: Apart from the above, any other requirements / parameters may also be declared as per the standard, as applicable.
3.	**परीक्षण उपकरणों की सूची** **List of Test Equipment**	:	कृपया Annex-A देखें Please see Annex – A
4.	**निरीक्षण और परीक्षण की स्कीम** **Scheme of Inspection and Testing**	:	कृपया Annex-B देखें Please see Annex – B
5.	**एक दिन में संभावित परीक्षण** **Possible tests in a day**		
	All tests are possible in a day. Note: This section is for the guidance of BIS Certification Officers/Technical Auditors of BIS Authorized Outside Surveillance Agencies (OSAs) during factory inspection to provide readyreference regarding the tests which can be witnessed during the inspection in the factory by the officer/auditor.		
6.	**लाइसेंस का दायरा /Scope of the Licence:**		
	Licence is granted to use Standard Mark as per 17450 : 2020 with the following scope:		
	उत्पाद का नाम Name of the product	1,3 फेंयलेनेडाईएमीन- विर्शिष्ट 1,3 Phenylenediamine — Specification	
	Grade	Grade 1 and/or Grade 2	

ANNEX – A

LIST OF TEST EQUIPMENTS

(INDICATIVE LIST, FOR GUIDANCE ONLY)

Sr. No.	Tests used in with Clause Reference	Test equipment
1.	Purity by GC, area percent, Clause 3.2, Table 1, Sl. No. – (i) 1,2-Phenylenediamine content, area percent, Clause 3.2, Table 1, Sl. No. – (ii) 1,4-Phenylenediamine content, area percent, Clause 3.2, Table 1, Sl. No. – (iii) Other Unknown Impurities, area percent, Clause 3.2, Table 1, Sl. No. – (vi)	Gas Chromatograph (GC) with Flame Ionization Detector & auto injector, sampler, GC parameters and FID parameters as per Annexure A of IS 17450: 2020. (Any gas chromatography capable of being operated under conditions suitable for resolving the individual constituents into distinct peaks may be used.) 1.0 microliter glass syringe, 100 ml volumetric flasks, Plastic Pipette, GC vial with septa and cap Acetonitrile - AR grade of known purity 1,3 Phenylenediamine - AR Grade of known Purity 1, 2 Phenylenediamine - AR grade of Known Purity 1,4 Phenylenediamine - AR grade of known Purity Weighing Balance, Water bath
2.	Set Point in˚C, Clause 3.2, Table 1, Sl. No. – (iv)	Acetone, Solid Carbon Dioxide, Ice, Calcium Sulphate, Desiccator, Airtight Containers, Crystallizing Tube- 25x150 mm Outer Protection tube - 28x120x2 mm Stirrer - Glass or SS, 20 mm diameter loop Precision thermometer- of 0.1˚C Least count Dewar Vessel as per IS 5299 Water bath Weighing balance

3.	Moisture by Karl Fischer, percent in mass Clause 3.2, Table 1, Sl. No. – (v)	Karl Fischer Titrator as per Cl. 6 of IS 2362 Weighing Balance Methanol (water less than 0.05 %) 2-Methoxyethanol (Ethylene Glycol Monomethyl Ether) Iodine Pyridine (Water less than 0.05 %) Sulphur Dioxide Dark painted Flasks with ground glass stoppers Solid CO2 Cork with a thermometer and an inlet glass tube of 6 to 8 mm, reaching to within 10 mm of the bottom of the flask, and a small capillary tube for connecting to the atmosphere. Anhydrous aluminium sodium silicate, silica gel Non- pyridine based Karl Fischer Reagents are availab le commercially and may be used after standardization. Sodium Tartarate, Crystalline Silicone Base Grease Microburette or pipette Distilled Water Volumetric Flasks Desiccator

ANNEX B

Scheme of Inspection and Testing

1. QUALITY ASSURANCE PLAN

1.1 It is expected that during operation of BIS licence, manufacturers will implement a Quality Assurance Plan (QAP) i.e. a plan of regular testing and in-process controls, designed to ensure that the product bearing the Standard Mark conforms to all requirements of the Indian Standard.

1.2 The manufacturers shall define a Quality Assurance Plan (QAP) defining the control unit (i.e. lot/batch etc.), the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and declare the arrangement for testing i.e. whether in-house or subcontracting/sharing for each applicable test and submit the same to BIS Branch Office for information. The manufacturer shall comply with the QAP and maintain test records in accordance with para 2.1.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is : For the purpose of this scheme, a control-unit is defined as the entire quantity of 1,3- Phenylenediamine processed in a single day.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in **Table 1**. Manufacturer has the discretion of declaring their own levels of control or accept the levels of control given in this document.

1.3.3 The manufacturer shall ensure inspection and testing as per the Quality Assurance Plan submitted by them on the whole production of the factory which is covered by this plan.

2. ENSURING COMPLIANCE THROUGH TESTING- manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard for which they may have in-house test facilities. However, there is no obligation to maintain in-house laboratory. Licensee may use alternative arrangements for tests of the production as per the declared QAP. Various alternatives are available for operation of BIS certification as given below and the relevant guidelines for availing such relaxations by the manufacturers, as amended from time to time, are to be referred :

i) Shared testing resources like common facility,

ii) Cluster based testing facility,

iii) Sub-contracting to outside laboratories which may either be:

a) BIS recognised/empanelled laboratories, or

b) Any accredited laboratory as per ISO/IEC 17025

2.1 **TEST RECORDS**- The manufacturers shall maintain test records for the tests carried out (either in-house or at a sub-contracted or at shared test facility) to establish conformity of the product to the Standard for operation of licence. For the tests being subcontracted or conducted at a shared test facility, test results issued by the laboratories or test facilities, shall be made available for inspection by BIS.

3. PACKING AND MARKING - The Standard Mark, as given in the Schedule of the licence, shall be marked on each container provided that material so marked conform to requirements of the specification.

3.1 Packing and Marking shall be done as per the Indian Standard.

3.2 **Additional Marking requirements**: Additionally, the following shall also be marked on package
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4. REJECTION - The production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark. 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

(Recommended Levels of Control by BIS- For Guidance only)

(1)				(3)		
Test Details				**Levels of Control**		
Cl.	**Requirement**	**Test Method**		**No. of Sample**	**Frequency**	**Remarks**
		Clause	**Reference**			
3.1	Description	3.1	IS 17450	Manufacturers shall ensure adequate inspection/ in process controls to ensure that product is complying requirement of description.		
3.2, Table 1 Sl. No. (i)	Purity by GC, Area Percent,	Annex A	IS 17450	One	Each Control unit	
3.2, Table 1 Sl. No. (ii)	1,2- Phenylenediamine Content, Area Percent	Annex A	IS 17450	-do-	-do-	
3.2, Table 1 Sl. No. (iii)	1,4- Phenylenediamine Content, Area Percent	Annex A	IS 17450	-do-	-do-	
3.2, Table 1 Sl. No. (iv)	Set Point in degree C	8	IS 5299	-do-	-do-	
3.2, Table 1 Sl. No. (v)	Moisture by Karl Fischer, percent in mass	10.2	IS 5299	-do-	-do-	
3.2, Table 1 Sl. No. (vi)	Other Unknown Impurities, area percent	Annex A	IS 17450	-do-	-do-	