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उत्पाद मैनुअल
पी - जाइलिन - विशिष्टि
IS 17370: 2023 के अनुसार

PRODUCT MANUAL FOR
p-XYLENE- SPECIFICATION
ACCORDING TO IS 17370: 2023

भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम 2018 की स्कीम-I के तहत यह उत्पाद मानुयल प्रमाणीकरणके प्रचलन मे रीति और पारदर्शिता के सुसंगता सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों एवं लाइसेन्स धारियों द्वारा संदर्भ सामग्री के रूप मे उपयोग किया जाएगा। बीआईएस लाइसेन्स/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 17370: 2023
	शीर्षक **Title**	:	**पी- जाइलिन- विशिष्टि** *p*-XYLENE - SPECIFICATION
	संशोधन संख्या **No. of amendments**	:	0 NIL
2.	**नमुनाकरण दिशा निर्देश** **Sampling Guidelines**		
a)	**कच्चा माल** **Raw material**	:	No specific requirement
b)	**समूहिकरण दिशा निर्देश** **Grouping Guidelines**	:	NA
c)	**नमूने का आकार** **Sample Size**	:	500 ml

d)	**Sampling guidelines for surveillance**		During operative period of one year, only one Factory sample and one Market sample to be drawn for independent testing for all requirements.
3.	**परीक्षण उपकरणों की सूची** **List of Test Equipment**	:	कृपया Annex-ए देखें Please refer Annex-A
4.	**निरीक्षण व परीक्षण स्कीम** **Scheme of Inspection and Testing**	:	कृ पया Annex-B देखें Please refer Annex-B
5.	**एक दिन में संभावित परीक्षण** **Possible tests in a day**		
	All tests are possible in a day		
6.	**लाइसेन्स का कार्यक्षेत्र /Scope of the Licence:**		
	IS 17370 :2023 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 17370: 2023 with the following Scope:		
	Name of the product	p-XYLENE	

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

ANNEX – A
LIST OF TEST EQUIPMENTS
TO THE PRODUCT MANUAL FOR
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Major test equipment required to test as per the Indian Standard

Sl. No.	Tests	Test Equipment
1.	Purity, *m*-Xylene, *o*-Xylene, Toluene, Ethylbenzene and Nonaromatic Hydrocarbons	**Apparatus:** i. Gas chromatograph: Any Gas chromatograph equipped with a flame ionization detector (FID), a split/spitless injector and a suitable electronic integrator/software, ii. Utility Gas Cylinders - Carrier, makeup and detector gas; iii. Syringe or Auto Sampler; iv. Volumetric Flask; v. Pipette; vi. Weighing Balance **Reagents:** i. High Purity p-Xylene
2.	Sulphur	**Test Method as per Annex-A of IS 17370:2023** **Apparatus:** (i) Total Sulphur analyser with combustion furnace, combustion tube, capable to withstand temperature of about 900 °C to 1 200 °C, automatic sample charger, flow controllers, gas driers, UV reaction cell, detector and a software to control the operating parameters (ii) Syringe; (iii) Weighing balance (iv) Pipette (v) Volumetric flask **Reagents:** i) Dibenzothiophene or Dibutyl Sulphide (98% pure, minimum); ii) Solvent, any suitable solvent capable of dissolving Sulphur compound, like iso-octane, p-xylene etc; iii) Inert Gas or Air (99.99 % Pure, minimum) iv) Oxygen (99.99 % Pure, minimum) v) Oxidation reagent, if required OR **Test Method as per IS 1448(Part 160) -Ultraviolet Fluorescence method** **Apparatus:** i. Furnace; comprising an electric device; ii. Combustion tube, of quartz;

		iii. Flow controllers; iv. Vapour drier; v. UV fluorescence detector; vi. Microlitre syringe; vii. Sample inlet system; viii. Weighing Balance; ix. Volumetric flasks **Reagents:** i. Inert gas, argon or helium, high purity grade with a minimum purity of 99.998 % (v/v); ii. Oxygen, high purity grade with a minimum purity of 99.75 % (v/v); iii. Solvent – Toluene or Isooctane or solvent similar to that occurring in the sample under analysis. iv. Sulfur compounds – Dibenzothiophene (DBT); Dibutyl sulfide (DBS); Thionaphthene (Benzothiophene) (TNA) v. Sulphur stock solution; vi. Quartz wool; OR **<u>Test Method as per IS 1448(Part 180) - Oxidative Microcoulometry method</u>** **Apparatus:** i. Microcoulometric apparatus ii. Sampling (micro)syringes iii. Gas regulators iv. Analytical balance, single-pan or two-pan, capable of weighing with an accuracy of 0.1 mg v. Volumetric flasks, capacities between 100 ml and 1000 ml vi. Heating tape **Reagents:** i. Electrolyte [potassium iodide (KI), sodium azide (NaN_3), glacial acetic acid (CH 3 COOH), water]. ii. Carrier gas, argon, nitrogen or helium, high purity grade with a minimum purity of 99.995 % iii. Oxygen, high purity grade with a minimum purity of 99.995 % iv. Iodine, resublimed v. Sulfur-free solvent, vi. Sulphur stock solution vii. Sulfur standard solutions
3.	Appearance	**<u>Test Method as per Annex-C of IS 17370:2023</u>** **Apparatus:** (i) 1 L glass bottle with screw cap (ii) Temperature sensing device (iii) Bright white light source

4.	Colour, Pt/Co Scale	**<u>Test method as per IS 8768</u>** **Apparatus:** i. Colour Comparision tubes ii. Colour Comparator iii. Spectrophotometer or colorimeter iv. Spectrophotometer cells v. Nessler tubes vi. Weighing balance vii. Volumetric flask viii. Pipette **Reagents:** i. Cobalt Chloride hexahydrate ii. Potassium Chloroplatinate or Chloroplatinic Acid iii. Hydrochloric Acid iv. Reagent Water v. Potassium-Cobalt reference standards

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

ANNEX B

SCHEME OF INSPECTION AND TESTING TO THE PRODUCT MANUAL FOR p-XYLENE - SPECIFICATION ACCORDING TO IS 17370: 2023

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 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 the Schedule of the licence shall be marked on each container provided always that the material so marked conforms to each requirement of the specification.

3.1 Packing - The material shall be packed in suitable form of packing as per provisions of Clause 4.1 of IS 17370: 2023.

3.2 Marking - The containers shall bear legibly and indelibly the information as mentioned under clause 4.2.1 and 4.2.3 of IS 17370: 2023. 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".

3.2.1 If the material is supplied in bulk quantities, as per provisions of Clause 4.2.2 of IS 17370: 2023, a test report shall be provided for each container, containing the following information and certified by authorized person of the manufacturer's organization:

a) Name of the material;
b) Name of the manufacturer and recognized trademark, if any;
c) Date of analysis

4. CONTROL UNIT – For the purpose of this scheme, a control-unit is defined as the entire quantity of p-Xylene produced under similar condition of manufacturing in a day.

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. REJECTION-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)

(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 Methods**			**No. of Samples**	**Frequency**	**Remarks**
		Clause	**Reference**				
3.1	Description	3.1	IS 17370:2023	R	Firm to have adequate in-process controls to check compliance of this parameter as per the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
Clause 3.2 and 5.2, Table 1, Sl.no (i)	Purity	Annex-A	IS 17370:2023	R	One	Each Control unit	
Clause 3.2 and 5.2, Table 1, Sl.no (ii)	*m*-Xylene	Annex-A	IS 17370:2023	R	One	Each Control unit	
Clause 3.2 and 5.2, Table 1, Sl.no (iii)	*o*-Xylene	Annex-A	IS 17370:2023	R	One	Each Control unit	
Clause 3.2 and 5.2, Table 1, Sl.no (iv)	Sulphur	Annex-B of IS 17370: 2023	IS 17370:2023 / IS 1448(Part 160)/ IS 1448(Part 180)	R	One	Each Control unit	
Clause 3.2 and 5.2, Table 1, Sl.no (v)	Toluene	Annex-A	IS 17370:2023	R	One	Each Control unit	
Clause 3.2 and 5.2, Table 1, Sl.no (vi)	Ethylbenzene	Annex-A	IS 17370:2023	R	One	Each Control unit	
Clause 3.2 and 5.2, Table 1, Sl.no (vii)	Nonaromatic Hydrocarbons	Annex-A	IS 17370:2023	R	One	Each Control unit	

Clause 3.2 and 5.2, Table 1, Sl.no (viii)	Appearance	Annex-C	IS 17370:2023	R	One	Each Control unit	
Clause 3.2 and 5.2, Table 1, Sl.no (ix)	Colour	--	IS 8768	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 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.