



उत्पाद मैनुअल
निर्जल हाइड्रोजन फ्लोराइड, तकनीकी
भारतीय मानक 10271: 1982 के अनुसार

**PRODUCT MANUAL
FOR ANHYDROUS HYDROGEN
FLUORIDE, TECHNICAL
ACCORDING to IS 10271: 1982**

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 10271: 1982
	शीर्षक Title	:	निर्जल हाइड्रोजन फ्लोराइड, तकनीकी Anhydrous Hydrogen Fluoride, Technical
	संशोधनों की संख्या No. of amendments	:	03
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	No specific requirement. <i>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.</i>
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Not applicable

c)	नमूने का परिमाण Sample Quantity	:	500 g minimum. Sampling to be done as per Appendix B. <i>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 the required quantity of product sample, as far as possible since raw material sample may not be available in market)</i>
d)	परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर Parameters to be Declared in Test Request	:	-
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer to Annex-A
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer to Annex-B
5.	एक दिन में संभावित परीक्षण Possible tests in a day		
	As the licence is operated on Factory Testing basis, complete testing of a sample shall be done in factory. <i>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 ready reference regarding the tests which can be witnessed during the inspection in the factory by the officer/auditor.</i>		
6.	लाइसेंस का दायरा/Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS 10271: 1982 with the following scope:		
	Name of the product		Anhydrous Hydrogen Fluoride, Technical
	Varieties/Type/Grades etc.		-

BUREAU OF INDIAN STANDARDS
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Annex-A**List of Test Equipment*****(INDICATIVE LIST, FOR GUIDANCE ONLY)***

S.No.	Tests Used in with Clause Reference	Test Equipment/Chemicals/Glassware
1.	Sulphur dioxide (as SO ₂) 2.1.2 of IS 10271	• Iodine solution (0.1 N and 0.01 N) • Starch Indicator Solution • Sodium Thiosulphate Solution • Potassium dichromate • PE weighing bottle • PE beaker • PE stirrer rod • Glassware along with burette and pipette • Weighing Balance
2.	Moisture 2.1.2 of IS 10271	• Methanol • 2-Methoxyethanol (Ethylene Glycol Monomethyl Ether) • Iodine • Pyridine • Sample Solvent • Sulphur Dioxide • Karl Fischer reagent • Sodium Tartarate, Crystalline • Water-Methanol Standard Solution • Water-Methanol Solution • Aluminium Sodium Silicate/Activated Silica Gel • Silicone Base Grease • Glassware along with microburette/pipette, desiccator, a brown or black-painted glass reagent bottle (Preferred), syringe etc. • Oven • Any commercial Karl Fischer Titrator with Electrometric End Point Detection. • Water bath with temperature controller. • Weighing Balance • Fumehood made up of HDPE or other compatible materials with scrubber
3.	Non-volatile acid (as H ₂ SO ₄) 2.1.2 of IS 10271	• Sodium Hydroxide Standard Solution • Phenolphthalein Indicator Solution • Sodium Fluoride Powder • Water Bath • Platinum Dish • Weighing Balance • Glassware
4.	Silica (as H ₂ SiF ₆) 2.1.2 of IS 10271	• Quartz • Sodium carbonate • Sulphuric Acid • Hydrochloric Acid • Boric Acid • Oxalic Acid

		• Ammonium Molybdate • Reducing Solution • Silica Standard Solutions A (1000 ppm of Hexafluorosilicic Acid) and B (20 ppm of Hexafluorosilicic Acid) • Photoelectric Absorptiometer • Weighing Balance • Platinum crucible and rod • PE beaker, bottle etc. • Glassware
5.	Phosphorous (as P_2O_5) Cl 2.1.2 of IS 10271	• Perchloric Acid • Ammonium Molybdate Solution • Reducing Solution • Standard Phosphate Solutions • Platinum Dish • Photoelectric Absorption Meter • Weighing Balance

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 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 incorporated legibly and indelibly on each type of packing/container and on the Label/Test Certificate / Certificate of Analysis supplied along with Bulk Container (as applicable), provided always that the material so marked, conform to every requirement of the specification.
 - 3.1. Packing and marking (including CAUTIONARY DISPLAY) 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, Anhydrous Hydrogen Fluoride, Technical produced in a continuous run in a 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.
- 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	
Clause	Requirement	Test Methods			No. of Sample	Frequency
		Clause	Reference			
2.1.1	Description	2.1.1	IS 10271	R	One	Each control unit
2.1.2, Table 1, Sl. No. i)	Sulphur dioxide (as SO ₂)	A-2	IS 10271	R	One	Each control unit
2.1.2, Table 1, Sl. No. ii)	Moisture	A-3	IS 10271	R	One	Each control unit
2.1.2, Table 1, Sl. No. iii)	Non-volatile acid (as H ₂ SO ₄)	A-4	IS 10271	R	One	Each control unit
2.1.2, Table 1, Sl. No. iv)	Silica (as H ₂ SiF ₆)	A-5	IS 10271	R	One	Each control unit
2.1.2, Table 1, Sl. No. v)	Phosphorous (as P ₂ O ₅)	A-6	IS 10271	R	One	Each control unit
2.1.2, Table 1, Sl. No. vi)	Hydrogen Fluoride (HF) content	A-7	IS 10271	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.

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.