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उत्पाद मैनुअल

ब्रोमीन तकनीकी IS 2142: 2023 के अनुसार

Product Manual for

Bromine, Technical According to IS 2142:2023

भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम 2018 की स्कीम-I के तहत यह उत्पाद मैनुअल प्रमाणीकरण की संचालन रीति में सुसंगतता और पारदर्शिता सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों एवं लाइसेन्स धारियों द्वारा संदर्भ सामग्री के रूप में 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 2142:2023
	शीर्षक Title	:	Bromine, Technical
	संशोधन संख्या No. of Amendments	:	0
2.	नमूनाकरण दिशानिर्देश Sampling Guidelines:		
a)	कच्चा माल Raw material	:	No Specific requirement
b)	समूहिकरण दिशानिर्देश Grouping guidelines	:	Not Applicable
c)	नमूने का आकार Sample Size	:	1 Pack size of 250ml.
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer ANNEX – A
4.	निरीक्षण व परीक्षण स्कीम Scheme of Inspection	:	Please refer ANNEX – B

	and Testing		
5.	एक दिन में संभावित परीक्षण Possible tests in a day :		
	I. Description II. Bromine content percent by mass III. Chlorine (as Cl) percent by mass IV. Non-Volatile matter percent by mass V. Iodine (as I) percent by mass		
6.	लाइसेन्स का कार्यक्षेत्र/ Scope of the Licence :		

“Licence is granted to use Standard Mark as per IS 2142:2023 with the following scope:

Name of the product	“Bromine, Technical”
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ANNEX A

List of Test Equipments

Major test equipment required to test as per the Indian Standard IS 2142:2023

S.No.	Tests with Clause Reference	
1	Bromine, as per Annexure A clause 3.2 and Table 1	Test Method as mentioned at A-2 <u>Reagents</u> a) Potassium Iodide b) Standard Sodium Thiosulphate solution 0.1N, The solution shall be standardized before use c) Starch Indicator solution d) Mercuric Iodide e) Distilled water
		<u>Equipments/Glassware</u> a) Weighing Balance Range 0 to 200gms, Least count 0.1mg b) Hot plate :Range ambient to 100°C, Least count 1°C c) Volumetric flask- 100ml,250ml d) Pipette single mark- 25ml e) Burette 25ml,50ml capacity, least count 0.1ml f) Conical flask -250ml capacity g) Measuring Cylinder 100ml, least count 1ml h) Glass Beakers 100ml,250ml,500ml capacity
2	Determination of Chlorine as per Annexure A clause 3.2 and Table 1	Test Method as mentioned at A-3
		<u>Reagents</u> a) Zinc filings b) Concentrated Nitric Acid c) Standard Silver Nitrate solution d) Nitrobenzene e) Standard Ammonium Thiocyanate solution- 0.1N f) Ferric Alum Indicator- Saturated solution g) Distilled water <u>Equipments/Glassware</u> a) Weighing Balance Range 0 to 200gms, Least count 0.1mg b) Hot plate :Range ambient to 100°C, Least count 1°C c) Volumetric flask- 100ml,250ml d) Pipette single mark- 25ml e) Burette 25ml,50ml capacity, least count 0.1ml f) Conical flask -250ml capacity g) Measuring Cylinder 100ml, Least count- 1ml h) Glass Beakers 100ml,250ml,500ml capacity

		i) Water bath Range: 30°C to 100°C, Least count 1°C J) Stream of Air facility
3	Determination of Non-Volatile Matter as per Annexure-A clause 3.2 and Table 1	Test Method as mentioned at A-4 <u>Reagents: Nil</u> <u>Equipments/Glassware</u> a) Weighing Balance Range 0 to 200gms, Least count 0.1mg b) Hot plate :Range ambient to 100°C, Least count 1°C c) Silica Dish, Capacity 25ml d) Fume hood e) Pipette range 0 to 10ml least count 0.1ml f) Hot Air oven Ambient to 250°C, Least Count 1°C g) Dessicator h) Water bath Range: 30°C to 100°C, Least count 1°C
4	Test for Iodine as per Annexure A	Test Method as mentioned at A-5 clause 3.2 and Table 1 <u>Reagents:</u> Zinc Dust Ferric Chloride Solution 10 Percent m/v Chloroform Standard Potassium Iodide solution <u>Equipments/Glassware</u> a) Weighing Balance Range 0 to 200gms, Least count 0.1mg b) Hot plate :Range ambient to 100°C, Least count 1°C c) Volumetric flask: 100ml d) Spatula e) Measuring Cylinder 100ml least count 1ml f) Filter flask with vacuum pump g) Nessler Cylinder, 50ml Capacity h) Pipette range 0 to 10ml, least count 0.1ml
5	Test for Sulphate as per Annexure A, clause 3.2 Table 1	Test Method as mentioned at A-6 (Method-I) <u>Reagents:</u> a) Dilute Ammonium Hydroxide solution 10 Percent (v/v) b) Dilute Hydrochloric Acid -1N c) Barium Chloride solution 10 percent (m/v) d) Potassium Sulphate AR Grade (Standard Sulphate Solution) <u>Equipments/Glassware</u>

		a) Weighing Balance Range 0 to 200gms, Least count 0.1mg b) Hot plate :Range ambient to 100°C, Least count 1°C c) Volumetric flask: 100ml,1000ml d) Evaporating dish Porcelain , capacity 100ml e) Measuring Cylinder 100ml least count 1ml f) Nessler Cylinder, 50ml Capacity g) Pipette range 0 to 10ml, least count 0.1ml
		Test Method as mentioned at A-7 (Method-II-Ion Chromatography)
		Reagents a) Distilled water or Deionized water free from the anions of interest. b) Sodium Bicarbonate c) Sodium Carbonate d) Conc. Sulphuric acid e) Potassium sulphate
		Equipments/Glassware a) Anion Guard column b) Anion separator column c) Anion suppressor device d) Detector e) Software

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. PACKING AND MARKING – The Standard Mark, as given in the Schedule of the licence, shall be marked on each bottle/container of Bromine, Technical, provided always that the products marked conforms to every requirements of the specification.

3.1 Packing and marking on the containers shall be done as per the provision of IS 2142:1992. In addition, the following details shall be marked 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

4. CONTROL UNIT – For the purpose of this Scheme, material manufactured continuously from same type of raw material in a day shall constitute a control unit.

5. LEVELS OF CONTROL - The tests as indicated in column 2 of Table 1 and the levels of control in column 7 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.

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BROMINE TECHNICAL

TABLE 1 LEVELS OF CONTROL
(Scheme of Inspection and Testing)

Test Details						
S.No.	Requirements	Test Methods	Test equipment requirement R-Required or S- Sub Contracting Permitted	No of Samples	Frequency	Remarks
1	Description	Clause 3.1 of IS 2142	Firm to have adequate in-process controls to check compliance of this parameter as per the tolerances given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity			
2	Bromine Content	Clause 3.2 A-2 of IS 2142	R	One	Each Control unit	-----
3	Chlorine (as Cl)	Clause 3.2 A-3 of IS 2142	R	-do-	- do -	-----
4	Non- Volatile matter	Clause 3.2 A-4 of IS 2142	R	-do-	- do -	-----
5	Iodine (as I)	Clause 3.2 A-5 of IS 2142	R	-do-	- do -	-----
6	Sulphates (as SO ₄)	Clause 3.2 A-6 of IS 2142 or Clause 3.2 A-7 of IS 2142	R	-do-	- do -	-----

Note-1: 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.