

उत्पाद मैनुअल
सोडियम बाइक्रोमेट, तकनीकी – विशिष्टता
IS 249: 2022 के अनुसार

PRODUCT MANUAL FOR
SODIUM BICHROMATE TECHNICAL — SPECIFICATION
ACCORDING TO IS 249: 2022

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 Product	:	IS 249: 2022
	शीर्षक Title	:	Sodium Bichromate, Technical – Specification (Fourth revision)
	संशोधन संख्या No. of amendments	:	0
2.	नमूना दिशानिर्देश Sampling Guidelines	:	-
a)	कच्चा माल Raw material	:	No Specific Requirement
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Not Applicable
c)	नमूने का परिमाण Sample Size	:	500 gms
d)	परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर Parameters to be Declared in Test Request	:	i) Name of the product Note: This section indicates declared values to be specified against a parameter (in Test Requests) to enable testing of sample against the requirement and determine its conformity. Any other requirements/parameters may also be declared as per the standard, as applicable.
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer Annexure - A

4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer Annexure - B
5.	एक दिन में संभावित परीक्षण Possible tests in a day	:	All Tests
6.	लाइसेंस का दायरा Scope of the Licence:		
	आईएस 249 : 2022 के अनुसार मानक मुहर का उपयोग करने के लिए लाइसेंस निम्नलिखित कार्यक्षेत्र के लिए प्रदान किया जाता है Licence is granted to use Standard Mark as per IS 249: 2022 with the following scope:		
	उत्पाद का नाम Name of the product	Sodium bichromate, technical	

BUREAU OF INDIAN STANDARDS
Manak Bhawan, 9, Bahadur Shah Zafar
Marg, New Delhi – 110002

ANNEXURE A
LIST OF TEST EQUIPMENT

(INDICATIVE LIST, FOR GUIDANCE ONLY)

Sl No.	Test Used in with Clause Reference	Test Equipment/Chemical
1	Free moisture and combined water, (Clause 3.2 Table 1, Sl. No i)	1. Weighing Balance- 0.1 mg 2. Petri Dish 3. Hot Air Oven 4. desiccator
2	Sodium bichromate ($\text{Na}_2\text{Cr}_2\text{O}_7$) content, (Clause 3.2 Table 1, Sl. No ii)	Method A: Iodometric method 1. Potassium iodide — Crystals. 2. Dilute sulphuric acid 3. Standard sodium thiosulphate solution — 0.1 N 4. Starch solution 5. Mercuric iodide 6. Water bath 7. Volumetric flask 8. Weighing Balance 9. Burette 10. Pipette 11. Wash bottle 12. Conical flask 13. Stopwatch 14. Watch Glass Method B: Permanganate method 1. Ferrous ammonium sulphate solution — 0.1 N 2. Standard potassium permanganate solution — 0.1 N 3. Water bath 4. Volumetric flask 5. Weighing Balance 6. Burette 7. Pipette 8. Wash bottle 9. Conical flask 10. Watch Glass
3	Sulphates (as Na_2SO_4), (Clause 3.2 Table 1, Sl. No iii)	Method A- 1. Concentrated Hydrochloric Acid 2. Rectified Spirit 3. Barium Chloride Solution 4. Dilute Hydrochloric Acid 5. Concentrated Sulphuric Acid 6. Concentrated Nitric Acid 7. Weighing Balance 8. Volumetric flask 9. Graduated cylinder 10. Water Bath 11. Stop Watch 12. Tared Gooch crucible/ filter paper (Whatman No. 42 or equivalent) 13. Muffle Furnace Method B – Ion chromatography method 1. Anion Guard Column 2. Anion Separator Column 3. Anion Suppressor Device 4. Detector 5. Software

		6. Sample loop of 100 µl, 200 µl, 500 µl or 1 000 µl be used to determine ionic concentration as per instrument manual and practice. 7. Glass or polyethylene sample bottles. 8. Distilled water or deionized water 9. Eluent 10. Micromembrane Suppressor Solution 11. Standard Solutions Chloride and sulphate
4	Chlorides (as NaCl), (Clause 3.2 Table 1 Sl no iv)	Method A: 1. Calcium Carbonate — Solid 2. Standard Silver Nitrate Solution — 0.1 N 3. Potassium Chromate Indicator Solution 4. 250 ml conical flask 5. Analytical balance 6. Distilled water Method B – Ion chromatography method 1. Anion Guard Column 2. Anion Separator Column 3. Anion Suppressor Device 4. Detector 5. Software 6. A sample loop of 100 µl, 200 µl, 500 µl, or 1,000 µl be used to determine ionic concentration as per the instrument manual and practice. 7. Glass or polyethylene sample bottles. 8. Distilled water or deionized water 9. Eluent 10. Micromembrane Suppressor Solution 11. Standard Solutions Chloride and sulphate
5	Calcium compounds (as CaSO ₄), (Clause 3.2 Table 1, Sl. No v)	1. Ammonium Oxalate Solution 2. Methyl Red Indicator Solution Desiccator 3. Dilute Ammonium Hydroxide 4. Dilute Sulphuric Acid 5. Standard Potassium Permanganate Solution -0.1 N 6. Weighing Balance 7. Distilled water 8. Water bath 9. Magnetic stirrer 10. filter paper (Whatman No. 40 or equivalent) 11. Glass rod 12. conical flask 13. stirring rod
6	Matter insoluble in water, (Clause 3.2 Table 1, Sl. No vi)	1. Weighing Balance- 0.1 mg 2. Distilled water 3. Water bath 4. Tared sintered glass crucible 5. Hot Air Oven
7	pH value (of aqueous solution) (Clause 3.2 Table 1, Sl. No vii)	1. pH Meter 2. Weighing balance 3. Water bath 4. Desiccator 5. beaker

ANNEX B

SCHEME OF INSPECTION AND TESTING

1. QUALITY ASSURANCE PLAN

1.1 It is expected that manufacturers (licensees/applicants) will implement a Quality Assurance Plan 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 defining the control unit (i.e. lot/batch etc.) and the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and submit the same to BIS Branch Office for information. The manufacturer shall comply with the same and maintain test records in accordance with para 2.4.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: Entire quantity of the product produced in a batch at a time.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in **Table 1**.

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. Alternatively, the manufacturer has the option of adherence to the quality plan as per levels of control recommended in column 3 of Table 1.

1.4 However, all manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard.

2. ENSURING COMPLIANCE THROUGH TESTING- It is expected that manufacturers (licensees/applicants) will establish a suitably equipped and staffed in house laboratory (In house testing facility) for testing at least those parameters of the Indian Standard which require routine testing for ensuring quality of the product. This includes in-process controls as may be defined and put in place by the manufacturer and testing parameters/requirements which can only be performed in the factory.

2.1 For the guidance of manufacturers, Table 1 giving the recommended levels of control is given below. Column 2 of Table 1 indicates routine tests where test equipment is required in house as “R” or other tests which can be subcontracted as “S”. Subcontracting is permitted to BIS recognized/empaneled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.2 For MSME manufacturers, the requirement of maintaining a laboratory/in-house testing facility for routine tests (indicated as “R” in Column 2 of Table 1) is also optional.

2.2.1 MSME manufacturers may utilize common cluster based facilities as per guidelines for the utilization of cluster based test facilities by MSMEs or the provisions of Sharing of testing facilities or get testing done from BIS recognized/empaneled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.3 Large Scale manufacturers shall maintain an in-house laboratory equipped at least with test facilities for routine tests (indicated as “R” in Column 2 of Table 1), where different tests given in the specification shall be carried out in accordance with the method given in the specification. They shall also implement a calibration plan for the in-house test equipment.

2.3.1 Alternatively, in lieu of an in-house laboratory, large scale manufacturers can also utilize the provisions of Sharing of testing facilities as per the Guidelines for Grant of Licence available on BIS website www.bis.gov.in. (Under Conformity Assessment>Product Certification Process). Even for subcontracted tests, provisions for sharing of testing facilities can be utilized.

2.4 TEST RECORDS- The manufacturers maintaining an in-house laboratory or utilizing common cluster based facilities or shared test facilities shall maintain test records for the tests carried out to establish conformity. For the tests being subcontracted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025, test reports issued by the laboratories shall be available for inspection by BIS.

3. PACKING AND MARKING - The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on each container of the material provided always that the material so marked conforms to each requirement of the specification.

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

3.2 **Additional Marking requirements:** The container of the material shall also be marked with the following additional requirement

a) “For BIS certification details please visit www.bis.gov.in”

4. REJECTION - All 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
(ONLY FOR GUIDANCE PURPOSE)

PM/249/1
September 2025

TEST DETAILS				Test equipment requirement R: required (or) S: Subcontracting permitted	LEVELS OF CONTROL		REMARKS
Clause	Requirements	Test Method			No. of Sample	Frequency	
		Clause	Reference				
3.1	Description	3.1	IS 249	R	Firm to have adequate in-process controls to check compliance of this parameter as given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
3.2 Table 1	Free moisture and combined water, percent by mass	Annex-2	IS 249	R	1	Each Control Unit	-----
3.2 Table 1	Sodium bichromate (Na2Cr2O7) content, percent by mass	Annex-3	IS 249	R	1	Each Control Unit	-----
3.2 Table 1	Sulphates (as Na2SO4), percent by mass	Annex-4 and Annex-9	IS 249	R	1	Each Control Unit	-----
3.2 Table 1	Chlorides (as NaCl), percent by mass	Annex-5 and Annex-9	IS 249	R	1	Each Control Unit	-----
3.2 Table 1	Calcium compounds (as CaSO4), percent by mass	Annex-6	IS 249	R	1	Each Control Unit	-----
3.2 Table 1	Matter insoluble in water, percent by mass	Annex-7	IS 249	R	1	Each Control Unit	-----
3.2 Table 1	pH value (of aqueous solution)	Annex-8	IS 249	R	1	Each Control Unit	-----

Appendix-1

TEST CERTIFICATE XYZ COMPANY

(REGISTERED OFFICE ADDRESS AND WORKS ADDRESS)

TEST CERTIFICATE FOR SODIUM BICHROMATE, TECHNICAL AS PER IS 249: 2022

TEST CERTIFICATE NO. _____ Dated:

SUPPLIED TO M/s _____ (Name and Address of Consignee)

It is certified that the material described below fully conforms to IS 249:2022. The properties of the product, as tested in accordance with the Scheme of Inspection and Testing contained in the BIS Certification Marks License No. CM/L _____ are as indicated below against each order no. etc.

(PLEASE REFER TO IS 249:2022, FOR DETAILS OF SPECIFICATION REQUIREMENTS)

TEST RESULTS

Order no and date	Name and Grade of the material	Control Unit/ Batch Number	Month and Year of manufacture	Qty	Requirements							
					Description	Free moisture and combined water,	Sodium bichromate (Na ₂ Cr ₂ O ₇)	Sulphates (as Na ₂ SO ₄)	Chlorides (as NaCl)	Calcium compounds (as CaSO ₄)	Matter insoluble in water	pH value (of aqueous solution)

The material supplied conforms to specified requirements of IS 249: 2022.

REMARKS:

Tank Car / Tank Truck / Container ship no.

(Signature)
For XYZ Company

MATERIAL SUPPLIED BY

Name and Address of manufacturer:

Recognized Trade Mark if any:

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“For details of BIS certification please visit www.bis.gov.in”