



उत्पाद मैनुअल
सोडियम बेंजोएट, खाद्य ग्रेड — विशिष्टि
IS 4447:2026 के अनुसार

PRODUCT MANUAL FOR
Sodium Benzoate, Food Grade- Specification
ACCORDING TO IS 4447 :2026

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 4447: 2026
	शीर्षक Title	:	Sodium Benzoate, Food Grade - Specification
	संशोधनों की संख्या No. of amendments	:	Nil
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material		No specific requirements 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	:	Not Applicable
c)	नमूने का परिमाण Sample Quantity	:	200g 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).
d)	परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर Parameters to be Declared in Test Request	Name of the Product 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	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	
	i. Description ii. Reaction with Ferric chloride iii. Reaction with uranyl zinc acetate iv. Flame test v. Melting range of precipitate with hydrochloric acid vi. Purity vii. Moisture viii. Acidity or alkalinity ix. Readily carbonizable substances x. Readily oxidizable substance xi. Chlorinated organic compounds xii. Arsenic xiii. Heavy metals (as Pb) xiv. Lead 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 4447: 2026 with the following scope:	
	Name of the product	Sodium Benzoate, Food Grade

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

ANNEXURE- A
LIST OF TEST EQUIPMENTS

(INDICATIVE LIST, FOR GUIDANCE ONLY)

SI No.	Tests used in with Clause Reference	Test Equipment/Chemical
1	Description, Cl. 3.1	Water, Ethanol (95 %)
2	Identification, Reaction with ferric chloride Cl. 3.2.1	Ferric Chloride solution, water
3	Reaction with uranyl zinc Acetate Cl. 3.2.2.1	Uranyl zinc acetate, Acetic acid, water, weighing balance, measuring beaker/ cylinder.
4	Flame Test, Cl. 3.2.2.2	Flame test apparatus
5	Melting range of Precipitate with Hydrochloric acid, Cl. 3.2.2.3	Hydrochloric acid, measuring beaker/ cylinder, water, distilled water, capillary tube (wall thickness 0.10 to 0.15 mm) internal diameter (0.9 to 1.1 mm), melting point apparatus with paraffin or silicone oil) and a stirring device fitted with auxillary thermometer, vacuum dessicator, sulphuric acid.
6	Purity, Cl. 3.3 and Table 1 (Annex B of IS 4447)	Hydrochloric acid-0.1 N, standard hydroxide solution- 0.5 N, Phenolphthalein indicator, Weighing balance (L.C- 1 mg), Measuring beaker/ cylinder. Ether, Bromophenol Blue, Titration equipment, water.
7	Moisture, Cl. 3.3 and Table 1 (Annex D of IS 4447)	Oven (capable of maintaining 105+- 1°C), weighing bottle, weighing balance (L.C- 1 mg)
8	Acidity or Alkalinity, Cl. 3.3 and Table 1 (Annex E of IS 4447)	Standard sodium hydroxide, Hydrochloric acid, Phenolphthalein Indicator, weighing balance, boiled water, measuring beaker/cylinder.
9	Readily Carbonizable Substances, Cl. 3.3 and Table 1 (Annex F of IS 4447)	Sulphuric acid, Cobalt chloride solution, Ferric chloride solution, Cupric sulphate, water, measuring beaker/cylinder, weighing balance (L.C- 1 mg), water, potassium iodide, Titration apparatus.
10	Readily oxidizable substances, Cl. 3.3 and Table 1 (Annex G of IS 4447)	Sulphuric acid, standard potassium permanganate solution, measuring cylinder/ beaker, water, heater for boiling, weighing balance.

11	Chlorinated organic compounds Cl. 3.3 and Table 1 (Annex H of IS 4447)	Concentrated nitric acid, calcium carbonate, dilute nitric acid, measuring cylinder/ beaker, silver nitrite solution, standard hydrochloric acid, weighing balance, heater.
12	Arsenic and Lead Cl. 3.3 and Table 1 (Cl 15 of 1699)	Instrument method: Kjeldahl flask, Atomic absorption spectrophotometer, hydrochloric acid, water, sodium sulphate, sodium borohydride pellets, potassium chloride, measuring cylinder/ beaker, volumetric flask, weighing balance, heater. Chemical method: For Lead; Nitric acid, sulphuric acid, ammonium acetate-citrate solution, ammonium solution, carbon tetrachloride, ammonium hydroxide, potassium cyanide, hydroxylamine hydrochloride solution, duluzone solution, buffer pH 2. For Arsenic: Distillation apparatus, conical flask, sulphuric acid, potassium permanganate solution, ferrous sulphate, Hydrochloric acid, potassium bromine solution, aluminium stripes, tin chloride solution, test paper.
13	Heavy Metal (as Pb) Cl. 3.3 and Table 1 (Annex J of IS 4447)	Ammonium solution, acetic acid solution, standard lead solution, lead nitrate stock solution, measuring beaker/cylinder, weighing balance, hydrogen sulphide, pH indicator, paper.

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: Sodium benzoate, Food Grade produced in a reaction vessel and dried 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**. 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 incorporated legibly and indelibly on each container of Sodium Benzoate, Food Grade, 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:** Additionally, the following shall also be marked on each container of Sodium Benzoate, Food Grade:

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

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)				(2)		
Test Details				Levels of Control		
Clause	Requirements	Test Method		No. of Samples	Frequency	Remarks
		Clause	Reference			
3.1	Description	3.1	IS 4447	One sample	Each control unit	Before drawing the sample, the entire dried Sodium benzoate or one control unit shall be thoroughly mixed. Samples shall then be drawn from different parts of the control unit & then mixed thoroughly again for making a composite sample for using it for analysis for various parameters of the ISS.
3.2	Identification					
3.2.1	Reaction with ferric chloride	3.2.1	IS 4447	-do-	-do-	
3.2.2	Test for Sodium					
	a) Reaction with uranyl zinc acetate	Annex A	IS 4447	-do-	-do-	
	b) Flame Test	3.2.2.2	-do-			
	c) Melting range of Precipitate with Hydrochloric acid	Annex C	-do-			
3.3 & Table 1	Purity	Annex B	IS 4447	-do-	-do-	
	Moisture	Annex D	do-			
	Acidity or Alkalinity	Annex E	-do-			
	Readily Carbonizable Substance	Annex F	-do-			
	Readily oxidizable substance	Annex G	-do-			
	Chlorinated organic compounds	Annex H	-do-			
	Arsenic (as As)	--	IS 1699			
	Lead	--	IS 1699			