



**PRODUCT MANUAL FOR
SODIUM HYPOCHLORITE SOLUTION PART 1: HOUSEHOLD AND INDUSTRIAL USE
ACCORDING TO IS 11673 (PART 1):2019**

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.	Product	:	IS 11673 (PART 1):2019
	Title	:	SODIUM HYPOCHLORITE SOLUTION - SPECIFICATION PART 1: HOUSEHOLD AND INDUSTRIAL USE
	No. of Amendments	:	NIL
2.	Sampling Guidelines:		
a)	Raw material	:	No specific requirement
b)	Grouping guidelines	:	NA (Separate samples shall be drawn for each grade)
c)	Sample Size	:	One sample comprising of 2 X 500 ml of Sodium hypochlorite solution, one container of 500 ml for initial testing and other for keeping quality
3.	List of Test Equipment	:	Please refer ANNEX –A
4.	Scheme of Inspection and Testing	:	Please refer ANNEX –B
5.	Possible tests in a day: All except keeping quality		
6.	Scope of the Licence :		
	“Licence is granted to use Standard Mark as per IS 11673 (PART 1):2019 with the following scope ”		
	Name of the product	Sodium Hypochlorite Solution Part 1: Household And Industrial Use	
	Grade	Grade 1 and/or Grade 2	

ANNEX-A

List of Test Equipment

Major test equipment required to test as per the Indian Standard

Sl. No.	Test Equipment	Tests used in with Clause Reference
1	Capillary stoppered relative density bottle or Twaddell or Baume Hydrometer, Weighing Balance — Least Count 0.1 mg., Water Bath	Relative density (at 25° / 25° C) – Cl 5.3
2	Weighing balance with accuracy of 0.001g, Laboratory equipment, glassware and Reagents: Glacial Acetic Acid, Starch Indicator Solution, Potassium Iodide — Iodate-free, Standard Sodium Thiosulphate Solution (Hypo), distilled water	Available chlorine (as Cl ₂) – Cl 5.3 and Keeping Quality – Cl 5.2
3	Weighing balance with accuracy of 0.001g, Laboratory equipment, glassware and Reagents: Iron Indicator Solution, Concentrated Nitric Acid, Standard Sodium Chloride Solution, Standard Potassium Thiocyanate Solution, Standard Silver Nitrate Solution, Sodium Metabisulphite, Potassium Chromate, distilled water	Total chlorine (as Cl ₂) – Cl 5.3
4	Weighing balance with accuracy of 0.001g, Suction pump, Laboratory equipment, glassware and Reagents: Barium Chloride Solution, Standard Hydrochloric Acid, Hydrogen Peroxide Solution, Phenolphthalein Indicator Solution, Sodium Hydroxide Solution, distilled water	Free alkali (as NaOH) – Cl 5.3
5	Weighing balance with accuracy of 0.001g, Laboratory equipment, glassware and Reagents: Standard Hydrochloric Acid, Dilute Hydrogen Peroxide Solution, Standard Sodium Hydroxide Solution, methyl red-bromocresol mixed indicator solution, distilled water	Free sodium carbonate (as Na ₂ CO ₃) – Cl 5.3
6	Weighing balance with accuracy of 0.001g, Nessler cylinders (50 ml), Silica dish, Laboratory equipment, glassware and Reagents: Ammonium Persulphate, Butanolic Potassium Thiocyanate Solution, ferrous ammonium sulphate, sulphuric acid, potassium permanganate, distilled water	Iron (as Fe) – Cl 5.3
7	Apparatus as per Annex G of IS 11673 (Part 1), and Reagents: Concentrated Hydrochloric Acid, Sodium Bromide Solution, Potassium Iodide Solution, Standard Sodium Thiosulphate Solution, Starch Indicator Solution	Sodium chlorate (as NaClO ₃) – Cl 5.3

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 equipments.
2. **TEST RECORDS** - The manufacturer shall maintain test records for the tests carried out to establish conformity.
3. **PACKING, MARKING AND STORING**-The Standard Mark as given in Schedule of the license shall be incorporated indelibly on each package of Sodium Hypochlorite Solution, provided always the material thus marked conforms to all the requirements of the specification.
 - 3.1 Packing, marking and storing shall be done as per the provisions of the Indian Standard. In addition, BIS Licence No. CM/L-.... and details of BIS website shall be marked on each package as follows: "For details of BIS certification please visit [www bis.gov.in](http://www.bis.gov.in)"
4. **CONTROL UNIT** – For the purpose of this scheme, the entire quantity of sodium hypochlorite solution of one grade manufactured at a time in one reaction vessel/tank shall constitute a control unit.
5. **LEVELS OF CONTROL** –The analysis and tests as indicated in Table 1 and at the levels of control specified therein, shall be carried out on the whole production of the factory which is covered by this scheme and appropriate records and charts maintained in accordance with Clause 2.0 above. All the production which conforms to the Indian Standard Specification and covered by this licence shall be marked with the Standard Mark.
 - 5.1 All production which conforms to the Indian Standard and covered in the licence should be marked with Standard mark.
6. **STORAGE** – Instructions for storage as given in the Indian Standard shall be complied.
7. **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. A separate record shall be maintain in giving information relating to the rejection of the production not conforming to the requirement of the specification and the method of its disposal. Such material shall in no case be stored together with that conforming to the specification.

Table 1: Levels of Control
(Para 5 of the Scheme of Inspection and Testing)

(1)				(2)	(3)		(4)
Test Details				Test equipment requirement R:required (or) S: Sub-contracting permitted	Levels of Control		Remarks
Clause	Requirements	Test Method			No. of Samples	Frequency	
		Clause	Reference				
5.1	Description	5.1	IS 11673 (Pt.1):2019	R	One	Each Control Unit	
5.3&Table 1 Sr.No.				R			
(i)	Relative Density	Annex A	-do-	R	One	Each Control Unit	
(ii)	Available Chlorine (As Cl ₂)	Annex B	-do-	R	Two	-do-	Both shall pass
(iii)	Total Chlorine (As Cl ₂)	Annex C	-do-	R	Two	-do-	-do-
(iv)	Free Alkali (as NaOH)	Annex D	-do-	R	One	-do-	
(v)	Free Sodium Carbonate (as Na ₂ CO ₃)	Annex E	-do-	R	One	Each Control Unit	
(vi)	Iron(as Fe)	Annex F	-do-	R	One	Each Control Unit	
(vii)	Sodium Chlorate	Annex G	-do-	R	One	-do-	
5.2	Keeping Quality	Annex B	-do-	S	Two	Once in a month	Both shall pass (Also See Note 3)

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.

Note-2: 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 empanelled by the Bureau.

Note 3- Once in a month, from one control unit, a packed container shall be stored in a cool, dark place. After a period of 30 days from the date of packing, two samples of sodium hypochlorite solution shall be drawn and tested for available chlorine content. Both the samples shall conform to the requirement as given in Table 1 to the Indian Standard.