



उत्पाद मानुयल

रासायनिक उद्योगों के लिए सामान्य नमक - विशिष्ट

**PRODUCT MANUAL
COMMON SALT FOR CHEMICAL INDUSTRIES
ACCORDING TO IS 797:2023**

नियम 2018 की स्कीम-I के तहत यह उत्पाद मानुयल प्रमाणीकरणके प्रचलन में रीति और पारदर्शिता के सुसंगत 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.	Product	:	IS 797:2023
a)	Title	:	COMMON SALT FOR CHEMICAL INDUSTRIES – SPECIFICATION
b)	No. of Amendments	:	Nil
2.	Sampling Guidelines:		
a)	Raw material	:	No specific requirement
b)	Grouping guidelines	:	Grade 1 and grade 2 bot are required to be tested separately to be covered in the scope of licence
c)	Sample Size	:	500 grams in two packets from composite sample
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 :		
	I. Description II. Moisture III. Sodium Chloride (as NaCl) IV. Matter insoluble in water V. Calcium Salts (as Ca) VI. Magnesium Salts (as Mg) VII. Sulphate (as SO ₄) VIII. Iron Compound (as Fe) <u>OPTIONAL REQUIREMENTS</u> IX. Grit Content X. Sulphate (as SO ₄) XI. Iron XII. Alkalinity XIII. Vanadium, Chromium & Molybdenum XIV. Aluminium, as (Al) XV. Titanium, Copper and Nickel		

6.	Scope of the Licence :	
	"Licence is granted to use	Standard Mark as per IS 797:2023 with the following scope:
	Name of the product	COMMON SALT FOR CHEMICAL INDUSTRIES
	Grade	Grade 1 and/or Grade 2
	Suitability of use for grade 2 material	For grade 2 material : i) Suitable for chemical industries and/or ii) Suitable/Not suitable for use in explosive and pyrotechnic industry, and/or iii) Suitable/Not suitable for use in manufacture of caustic soda by the electrolytic process

Annex A

To PRODUCT MANUAL of COMMON SALT FOR CHEMICAL INDUSTRIES ACCORDING TO IS 797:2023

Grouping Guidelines

1. Common salt for chemical industries is categorized under two groups as given below:
 - a) Grade 1 – suitable for the manufacture of hydro sulphite and optical brighteners or where a pure grade of the material is required; and
 - b) Grade 2 – suitable for chemical industries, explosive and pyrotechnic industry and for the manufacture of caustic soda by electrolytic process.
2. Grade 2 Common salt for chemical industries can further be classified based on suitability for use:
 - a) Suitable for chemical industries;
 - b) Suitable for explosive and pyrotechnic industry; and
 - c) Suitable for the manufacture of caustic soda by electrolytic process
3. The following grouping guidelines shall be followed for grant of licence and change in scope of licence.
 - a) Common salt for chemical industries of each grade to be tested to be covered in the scope of licence
 - b) Based on suitability for use,
 1. If Common salt for chemical industries of Grade 2, **suitable for explosive and pyrotechnic industry**, is tested, Common salt for chemical industries of Grade 2 suitable for chemical industries may also be included in the scope of licence.
 2. If Common salt for chemical industries of Grade 2, **suitable for the manufacture of caustic soda by electrolytic process**, is tested, Common salt for chemical industries of Grade 2 suitable for chemical industries may also be included in the scope of licence.
4. However, while considering grant of licence/inclusion of additional variety, it shall be ensured that the applicant/licensee has got the complete manufacturing and testing facilities for all the varieties intended to be covered.
5. During operation of the licence, BO shall ensure that all the varieties covered in the licence are tested in rotation, to the extent possible.

Annex-B

**To PRODUCT MANUAL of
COMMON SALT FOR CHEMICAL
INDUSTRIES ACCORDING TO IS
797:2023**

LIST OF TEST EQUIPMENTS

Major test equipment required to test as per the Indian Standard

S.NO	Test Equipment	Tests used in with clause Reference
1.	Weighing bottle 50ml, mortar and pestle, Test sieve 1mm, Hot air oven Desiccator and weighing bottle, glass funnel filter paper, Standard Measuring flask 1 liter, hot plate	B-2 Preparation of sample
2.	Agitator, Standard sieves of 2.8 mm, Air tight containers, Weighing Balance, Weighing Bottles of wide mouth squat type, Drying Oven with timer, Desiccators	Moisture content B-3 of IS797
3.	Pipettes, Burettes, Conical flasks, Potassium chromate Indicator solution, Titration Stands, Silver nitrate solution, Pipette, Standard Measuring Flask, Glass funnel, conical flask, Reagent Bottle	Total chlorides, B-4 of IS797
4.	Weighing Balance, Measuring Beakers, Weighing bottle 30ml- 1, glass beaker, Hot plate/heating mantle, Gooch or sintered glass crucible (G No. 4), Vacuum pump with filtering set, Hot air oven, desiccator	Matter Insoluble in water B-5 of IS 797
5.	Calcium carbonate, Hydrochloric Acid, Weighing Balance, Graduated Flask, Disodium ethylene diamine tetra acetate di hydrate, Erichrome Black T, Rectified spirit conforming to IS 323, Sodium Hydroxide, Murexide, Sodium chloride, Calcein indicator, Pestle and mortar, Thymolphthalin, Ammonium chloride, Ammonium Hydroxide, Burette, Pipette, Conical flask, Standard measuring flask, Beaker, Measuring jar, Dropper, magnesium sulphate, potassium chloride <u>INDUCTIVELY COUPLED PLASMA OPTICAL EMISSION SPECTROMETER (ICP-OES) METHOD</u> i. Nitric acid ii. Certified stock solution iii. Standard solution iv. HDPE/PP/PTFE container	Calcium and Magnesium B-6 of IS797
6.	<u>Gravimetric method:</u> Diluted Hydrochloric Acid, Barium chloride, Wattman paper, Methyl orange, Glass beaker, Glass funnel, Conical Flask, Filter paper, dropper, measuring cylinder, Hot plate/ heating mantle, Hot air Oven, Vacuum pump with filtering flask set, sintered glass crucible (G No. 4) or Gooch crucible <u>Volumetric method</u> barium chloride dehydrate, magnesium chloride hexahydrate,	Sulphate B-7 of IS 797

	Dilute hydrochloric acid, disodium ethylene diamine tetra acetate dehydrate, Erochrome black T indicator solution, Ammonium chloride-ammonium hydroxide buffer solution <u>Alternate method (Ion Chromatography)</u> - Anion Guard Column - Anion Separator Column - Anion Suppressor Device - Conductivity detector - Distilled Water - software Devices - Glass/Polyethylene Sample Bottles - sodium bicarbonate and sodium carbonate - Micromembrane Suppressor Solution (concentrated sulphuric acid) - Sodium Chloride - Potassium Sulphate - PTTE/HDPE beaker	
7.	Nessler cylinders, Concentrated nitric acid, dil hydrochloric acid, Potassium thiocyanate, dil sulphuric acid, weighing Balance, Measuring cylinder, Reagent bottle, ferrous ammonium sulphate, potassium thiocyanate <u>INDUCTIVELY COUPLED PLASMA OPTICAL EMISSION SPECTROMETER (ICP-OES) METHOD</u> - Nitric acid - Certified stock solution - Standard solution - HDPE/PP/PTFE container	Iron B-8 of IS 797
8.	Weighing Balance, 8-hydroxyquinoline, Sodium acetate, Chloroform, Anhydrous sodium sulphate, Sodium carbonate, Phosphoric acid, Sodium Tungstate, Muffle furnace (800-900 deg.cent), Fusing dish, Photo Electric calorimeter- 5 cm cells, Blue 400 nm filter, Vanadium pentaoxide, Hot plate	Vanadium B-9.2 of IS 797
9.	Aluminium solution, hydrochloric acid, Diphenyl carbazide reagent, phthalic anhydride, ethanol, Bromine water, Potassium Iodide, Sodium Hydroxide, Neutral sodium sulphite, Potassium dichromate, Beaker, sodium sulphate, 250 ml beaker, Photo electric colorimeter using 460 nm green filter, sintered glass crucible	Chromium B- 9.3 of IS 797
10.	Anhydrous potassium pyrosulphate, Dilute sulphuric acid, Ferrous ammonium sulphate, Potassium thiocyanate, Stannous chloride, mixture of isomyl alcohol and carbon tetra chloride, sodium molybdate-AR grade, 8- Hydroxyquinoline, separating funnel, photoelectric colorimeter, using a 5 cm light path cell and 460 nm filter, sodium molybdate	Molybdenum B- 9.4 of IS 797
11.	Ammonium acetate, acetic acid, aluminon reagent, thioglycolic acid, potassium aluminium sulphate, potassium chloride, 525 nm green filter Photo Electric calorimeter, ammonia solution, water bath, aluminium sulphate	Aluminium B-10 of IS 797
12.	Double distilled water, aluminium solution, conc. Hydrochloric acid, ammonia solution, conc. Sulphuric acid, tiron, sodium acetate, thioglycolic acid, potassium titanium oxalate, photoelectric colorimeter, using blue 410 nm filter and a cell with 5 cm light path	Titanium B-11.2 of IS 797

13.	Ammonium citrate, sodium diethyldithiocarbamate, Ethylene diamine tetra acetate sodium salt, ammonia solution, chloroform, phenolphthalein indicator, chloroform, ammonia, copper sulphate, ammonium citrate, 500 mm to 600 mm blue filter Photo Electric calorimeter, citric acid	Copper B-11.3 of IS 797
14.	Sodium citrate, dimethyl glyoxmine, ammonium nickel sulphate, chloroform, Dilute ammonia solution, Hydrochloric acid, Bromine water, Ammonium nickel sulphate	Nickel B-11.4 of IS 797
15.	Aqua regia, IS sieve 6.3 microns, Weighing balance, filtration assembly, silica crucible	Grit B-12 of IS 797
16.	Standard Hydrochloric acid, Methyl orange,	Alkalinity B-13 of IS 797

The above list is indicative only and may not be treated as exhaustive.

ANNEX – B
TO PRODUCT MANUAL FOR
COMMON SALT FOR CHEMICAL INDUSTRIES
ACCORDING TO IS 797:2023

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 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 marked on the packages/containers of common salt for chemical industries or printed on the label applied to it, provided always that the product so marked conform to requirements of the specification.
 - 3.1. Packing and Marking shall be done as per the provisions of the Indian Standard.
 - 3.2 If material is supplied in bulk packaging like in tank cars, tank trucks, container ships etc. the Standard Mark as given in Schedule of the licence and Licence Number (i.e. CM/L) shall be incorporated on a test certificate to be provided along with each tank car/tank truck/container ship as per the format at Appendix-1 enclosed, provided always that the product thus marked conforms to all the requirement of the specification. Packing shall be done as per provisions of Indian Standard and the marking details as per CI 5.2 of IS 797:2023 shall also be indicated on the test certificate.
 - 3.3 In addition, the following shall be incorporated on each container and/or on the Test Certificate: :
 - a. BIS Licence Number CM/L– ; and
 - 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 the total quantity of the material manufactured during one 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.
 - 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.

**TABLE 1:
LEVEL OF CONTROL
COMMON SALT FOR CHEMICAL INDUSTRIES
ACCORDING TO IS 797:2023**

-1				-2	-3		
Test Details				Test equipment requirement R:required (or) S: Sub-contracting permitted	Levels of Control		
Clause	Requirements	Test Method Clause	Reference		No. of Samples	Frequency	Remarks
4.1	Description	Visual	IS 797: 2023	R	Firm to have adequate in-process controls to check compliance of this parameter. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
4.2	Moisture	Annex B-3	-do-	R	One	Each Control Unit	
4.3 & Table 1	Sodium Chloride (as NaCl)	Annex B-4	-do-	R	One	-do-	
	Matter insoluble in water	Annex B-5	-do-	R	One	-do-	
	Calcium Salts (as Ca)	Annex B-6 / B-15	-do-	R	One	-do-	
	Magnesium Salts (as Mg)	Annex B-6 / B-15	-do-	R	One	-do-	
	Sulphate (as SO ₄)	Annex B-7/ B-14	-do-	R	One	-do-	
	Iron Compound (as Fe)	Annex B-8/ B-15	-do-	R	One	-do-	
OPTIONAL REQUIREMENTS							
4.3.1.1	Grit Content	Annex B-12	-do-	R	One	-do-	applicable for Grade 2 for use in explosives and pyrotechnic
	Sulphate (as	Annex	-do-	R	One	-do-	applicable for Grade 2 for use in explosives and

	SO ₄)	B-7					pyrotechnic
	Iron	Annex B-8	-do-	R	One	-do-	applicable for Grade 2 for use in explosives and pyrotechnic
	Alkalinity	Annex B-13	-do-	R	One	-do-	applicable for Grade 2 for use in explosives and pyrotechnic
4.3.1.2	Vanadium, Chromium & Molybdenum	Annex B-9	-do-	R	One	-do-	applicable for Grade 2 for use in manufacture of caustic soda by the electrolytic process
	Aluminium, as (Al)	Annex B-10	-do-	R	One	-do-	applicable for Grade 2 for use in manufacture of caustic soda by the electrolytic process
	Titanium, Copper and Nickel	Annex B-11	-do-	R	One	-do-	applicable for Grade 2 for use in manufacture of caustic soda by the electrolytic process

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. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

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 for the approval by BO Head.

Appendix-1**TEST CERTIFICATE**

XYZ COMPANY (REGISTERED OFFICE ADDRESS AND WORKS ADDRESS)

TEST CERTIFICATE FOR COMMON SALT FOR CHEMICAL INDUSTRIES

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 797:2023 .

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 797:2023 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

TEST RESULTS

Order no and date	Name of the material	Test	Requirement	Observed value	Control Unit/ Batch Number	Month and Year of manufacture	Quantity	Remarks
		Description						
		Moisture						
		Sodium Chloride (as NaCl)						
		Matter insoluble in water						
		Calcium Salts (as Ca)						
		Magnesium Salts (as Mg)						
		Sulphate (as SO ₄)						
		Iron Compound (as Fe)						
		OPTIONAL REQUIREMENTS (as applicable)						
		Grit Content						
		Sulphate (as SO ₄)						
		Iron						
		Alkalinity						
		Vanadium, Chromium & Molybdenum						
		Aluminium, as (Al)						
		Titanium, Copper and Nickel						

The material supplied conforms to specified requirements of IS 797:2023 .

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:

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