



**PRODUCT MANUAL
COMMON SALT FOR CHEMICAL INDUSTRIES
ACCORDING TO IS 797:1982**

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 797:1982
	Title	:	COMMON SALT FOR CHEMICAL INDUSTRIES
	No. of Amendments	:	1
2.	Sampling Guidelines:		
a)	Raw material	:	No specific requirement
b)	Grouping guidelines	:	None.
c)	Sample Size	:	500 grams in two packets from composite sample
3.	List of Test Equipment	:	Major test equipment required to test as per requirements of Indian Standard as given in Annex-A
4.	Scheme of Inspection and Testing	:	Please refer Annex – B
5.	Possible tests in a day :		
	<ul style="list-style-type: none"> i) Description ii) Moisture content iii) Determination of Total chlorides iv) Determination of matter Insoluble in water v) Determination of calcium and Magnesium vi) Determination of Sulphate vii) Test for Iron viii) Determination of vanadium, chromium and Molybdenum ix) Test for Aluminium x) Test for Titanium , copper and nickel 		
6.	Scope of the Licence :		
	"Licence is granted to use		Standard Mark as per IS 797:1982 with the following scope:
	Name of the product		COMMON SALT FOR CHEMICAL INDUSTRIES
	Grade		Grade 1, Grade 2
	Suitability of use for grade 2 material		For grade 2 material : <ul style="list-style-type: none"> i) Suitable/Not suitable for use in explosive and pyrotechnic industry, and ii) Suitable/Not suitable for use in manufacture of caustic soda by the electrolytic process

Annex-A
PRODUCT MANUAL
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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.	Visual observation only	Description Cl3.1 of IS 797
2.	Weighing bottle 50ml-1, mortar and pestle-1, Test sieve 1mm-1, Hot air oven-1 Desiccator and weighing bottle 30ml-1, glass funnel-1 filter paper, Standard Measuring flask 1 liter-1	A-1 Preparation of sample
3.	Agitator, Standard sieves of 2.8 mm, Air tight containers, Electronic Weighing Balance, Weighing Bottles of wide mouth squat type-50 ml, Drying Oven with timer(0-150 Deg. Centigrade), Desiccators 1	Moisture content A-2 of IS 797
4.	Pipettes, Burettes, Conical flasks, Potassium chromate Indicator solution, Titration Stands, Silver nitrate solution, Amber colour burette -50ml-1, Pipetter-10ml-1, Standard Measuring Flask 500ml-1, Glass funnel-1, Amber colour conical flask 250ml-1, Reagent Bottle amber colour 500ml-1,	Total chlorides, A-3 of IS 797
5.	Electronic Weighing Balance, Measuring Beakers, Weighing bottle 30ml-1, glass beaker 500ml-1, Hot plate/heating mandle-1, G4 glass Crucible-1, Vacuum pump with filtering set-1, Hot air oven-1, desicator-1	Matter Insoluble in water A-4 of IS 797
6.	Calcium, Hydrochloric Acid, Electronic Weighing Balance, Graduated Flask, Standard EDTA, Disodium ethylene diamine tetra acetate, Dehydrate Erichrome Black T, Electronic Weighing Balance Rectified spirit conforming to IS 323:1959, Sodium Hydroxide, Murexide, Sodium chloride, Calcein, Pestle and mortar, Thymolphthalin, Ammonium chloride, Ammonium Hydroxide, Burette 50ml-1, Pipette- 50ml-1, Conical flask 250ml-2, Standard measuring flask-100ml-2, Beaker 100ml-1, Measuring jar 1000ml-1, Dropper 10ml-2,	Calcium and Magnesium A-5 of IS 797

7.	Diluted Hydrochloric Acid, Barium chloride, Watt men paper, Methyl orange, Weighing bottle 20ml-1, Glass beaker 500ml-1, Glass funnel-1, Conical Flask 500ml-1, Filter paper, dropper 2ml-1, measuring cylinder 50ml, Hot plate/ heating mantle-1, sintered Glass crucible G4-1, Hot air Oven-1, Vacuum pump with filtering flask set-1	Sulphate Gravimetric method A-6 of IS 797
8.	Nessler cylinders-50ml-2 capacity, Concentrated nitric acid, Potassium thiocyanate, Electronic Weighing Balance, Measuring cylinder 10ml-1, Reagent bottle 250ml-3,	Iron A-7 of IS 797
9.	Electronic Weighing Balance, Sodium Acetate, Chloroform, Anhydrous sodium sulphate, Sodium carbonate, Phosphoric acid, Sodium Tungstate, Muffle furnace (800-900 deg. cent), Fusing dish (900-1000 deg. cent.), Photo Electric calorimeter- 5 cm cells, Blue 400 mm filter, Vanadium, Hot plate	Vanadium A-8 of IS 797
10.	Aluminium solution, Diphenyl carbazide reagent, Bromine water, Potassium Iodide, Sodium Hydroxide, Neutral sodium sulphate, Potassium dichromate, Beaker- 4ltr, sodium sulphate, 250 ml beaker, Photo electric colorimeter using 460 mm green filter	Chromium A-8.2 of IS 797
11.	Anhydrous potassium pyrosulphate, Ferrous ammonium sulphate, Potassium thiocyanate, Stannous chloride, mixture of isomyl alcohol and carbon tetra chloride, sodium molybdate-AR grade, 8-Hydroxyquinoline, separating funnel	Molybdenum A-8.3 of IS 797
12.	Ammonium acetate, ammonia, thioglycollic acid-10 percent, potassium aluminium sulphate, potassium chloride, 525 mm green filter Photo Electric calorimeter,	Aluminium A-9 of IS 797
13.	Double distilled water, iron, potassium titanium oxalate, 41 mm blue filter Photo Electric calorimeter,	Titanium A-10.1 of IS 797
14.	Ammonium citrate, sodium diethyldithiocarbamate, Ethylene diamine tetra acetate sodium salt, phenolphthalein indicator, chloroform, ammonia, copper sulphate, ammonium citrate, 500 mm to 600 mm blue filter Photo Electric calorimeter,	Copper A-10.2 of IS 797
15.	Sodium citrate, dimethyl glyoxime, ammonium nickel sulphate	Nickel A-10.3 of IS 797
16.	Aqua regia, IS sieve 6.3 microns, Weighing balance	Grit A-11 of IS 797
17.	Standard Hydrochloric acid-0.1 n, Methyl orange,	Alkalinity A-12 of IS 797

Notes:

1. Least count/range/specification of apparatus, reagents etc. shall be as per the IS
2. The above list is for guidance only and may not be treated as exhaustive

ANNEX – B
PRODUCT MANUAL
COMMON SALT FOR CHEMICAL INDUSTRIES
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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 equipment's.
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 requirements of the standard. In addition, the following details shall be mentioned on each container/package:-
 - 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 the total quantity of the material manufactured during one day shall constitute a control unit.
5. **LEVELS OF CONTROL** - On the basis of tests and analysis results, the decision regarding conformity or otherwise of a control unit to as given requirement shall be made as follows:
 - 5.1 Each of the tests results for description, Moisture, Sodium chloride content shall satisfy the relevant requirement of the specification. However, if one or more samples do not satisfy the specified requirements in respects of sodium chloride content the conformity of the control unit shall be ascertained in accordance with Table-2.
 - 5.2 A composite sample made by taking equal quantity of material from each shift of a day's production, which has passed the test at 5.1 above, shall be tested for other requirements of the specification. If it fails in any one of requirements of table I, the samples from each of the concerned shifts shall be tested individually for these requirements and the material represented by the samples which fail in any one or more of these requirements, shall be considered unfit, for the purpose of marking.

- 5.3. In respect of all other clauses of the specification the factory will maintain appropriate controls and checks to ensure that their product conforms to the various requirements of the specification.
6. **HYGIENIC CONDITIONS** – Wherever applicable, hygienic conditions shall be complied in day to day production and quality control activities. Schedule for each activity for this purpose shall be displayed prominently in the factory premises and records of compliance shall be maintained.
7. **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 797:1982**

(1)				(2)	(3)			
Test Details				Test equipment requirement R:required (or) S: Sub-contracting permitted	Levels of Control			
Clause	Requirements	Test Method			No. of Samples		Frequency	Remarks
		Clause	Reference	Gr.1	Gr.2			
3.1	Description	Visual	IS 797:1982	R	On dry basis		Each Control Unit	
3.2	Moisture	APP. A-2	-do-	R	Three	Three	-do-	
3.3 & Table 1	Sodium Chloride (as NaCl)	APP. A-3	-do-	R	Composite sample	Composite Sample	-do-	
	Matter insoluble in water	APP. A-4	-do-	R	One	One	-do-	
	Matter soluble in water (other than Sodium Chloride)	To be determined by calculation		R	-	One	-do-	
	Calcium Salts (as Ca)	App. A-5	-do-	R	One	One	-do-	
	Magnesium Salts (as Mg)	APP. A-5	-do-	R	One	One	-do-	
	Sulphate (as SO ₄)	App. A-6	-do-	R	One	One	-do-	
	Iron Compound (as	APP. A-7	-do-	R	One	One	-do-	

	Fe)							
OPTIONAL REQUIREMENTS (See Note 3)								
3.3.1	Grit Content	APP. A-11	-do-	S	-	One	-do-	
3.3.1.1	Sulphate (as SO ₄)	APP. A-6	-do-	S	One	One	-do-	
3.3.1.1	Iron	APP. A-7	-do-	S	One	One	-do-	
3.3.1.1	Alkalinity	APP. A-12	-do-	S	-	One	-do-	
3.3.1.2	Vanadium, Chromium & Molybdenum	APP. A-8	-do-	S	-	One	-do-	
	Aluminium, as (A 1)	APP. A-9	-do-	S	-	One	-do-	
3.3.1.2	Titanium, Copper and Nickel	APP. A-10	-do-	S	-	One	-do-	

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.

Note-3: Optional requirements, if required, may be checked as per Cl 3.3.1 of IS 797:1982

TABLE 2
Test Result and criterion of conformity of a control unit
(Para 5.1 of the Scheme of Inspection and Testing)

Sl. no.	Characteristic	Test Result	Average \bar{X}	Range R	Criterion of conformity
1	Sodium Chloride (as NaCl)	Three	\bar{X}	R	($\bar{X} - 0.6 R$) 99.5 in the case of Grade 1 ($\bar{X} - 0.6 R$) 98.5 in the case of Grade 2