



**PRODUCT MANUAL
FOR IODIZED SALT, VACUUM EVAPORATED IODIZED SALT AND REFINED
IODIZED SALT
ACCORDING TO IS 7224:2006**

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 7224:2006
	Title	:	IODIZED SALT, VACUUM EVAPORATED IODIZED SALT AND REFINED IODIZED SALT
	No. of Amendments	:	3
2.	Sampling Guidelines:		
a)	Raw material	:	No specific requirement
b)	Grouping Guidelines	:	NA (No varieties of the product mentioned in IS)
c)	Sample Size	:	One Kilogram (1 kg) of sample for complete testing.
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 tests can be carried out in a day		
6.	Scope of the Licence :		
	Licence is granted to use Standard Mark as per IS 7224:2006 with the following scope:		
	Name of the product	Iodized Salt, Vacuum Evaporated Iodized Salt and Refined Iodized Salt	
	Type	i. Refined iodized salt ii. Vacuum evaporated iodized salt iii. Iodized salt	

ANNEX A
TO PRODUCT MANUAL
FOR IODIZED SALT, VACUUM EVAPORATED IODIZED SALT AND REFINED
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List of Test Equipment

Major test equipment required to test as per the Indian Standard

Sl. No.	Tests Equipment	Tests used in with clause Reference Chemical
1	Weighing Balance, Weighing bottle, Wide mouth squat type bottle (about 30ml capacity) Oven, Desiccator, Air tight container, Agate Mortar approximately to size of 2.8 mm sieve	Moisture, Cl. 4.3, Table 1
2	Weighing balance, Petri dish Beaker, G-4 Crucible, 1 litre graduated flask, Hotplate/ Hot Water bath, 200 ml Beaker, Gooch or Sintered glass crucible (G No 4), Desiccator	Water insoluble matter Cl. 4.3, Table 1
3	Conical flask, burette Potassium Chromate indicator (5%) Silver nitrate solution (0.1N), pipette	Chloride content (as NaCl) Cl. 4.3, Table 1
	Standard calcium solution, standard EDTA solution , Eriochrome Black T Indicator Solution, Dilute Sodium Hydroxide Solution, Murexide Indicator Solution/Patton and Reader's Indicator, Ammonium Chloride—Ammonium Hydroxide Buffer Solution Measuring cylinder, conical flask, stirring rod, analytical balance.	Calcium Cl. 4.3, Table 1
	E.D.T.A., Eriochrome black T indicator, Dilute sodium solution Ammonium chloride Ammonium hydroxide Buffer solution hydroxide (10%), Sodium hydroxide solution, stirring rod, Murexide Indicator/ Patton and Reader's Indicator Pipette, Conical flask, Burette.	Magnesium Cl. 4.3, Table 1
5	Weighing balance, beaker, hot plate, G no. -4 Crucible, Vacuum Pump, Oven Dilute hydrochloric acid (approx. 4N), Barium chloride (10%) Methyl orange indicator (as SO ₄), percent by mass, Whatman filter paper No 42. Standard barium chloride solution Dilute hydrochloric acid — Approximately 1 N. Standard EDTA solution Eriochrome black T indicator solution	Sulphate Cl. 4.3, Table 1 Gravimetric method Volumetric Method

	Ammonium chloride-ammonium hydroxide buffer solution, Heating arrangement Pipette, conical flask litmus paper filtration	
6	Methyl Orange Indicator, Dilute Sulphuric Acid Bromine Water, Sodium Sulphite Solution, Phenol Solution, Potassium Iodide Solution, Standard Sodium Thiosulphate Solution, Starch Solution, Sodium Chloride solution, Potassium Iodide for Control-Determination Pipette, Conical flask, Beaker Double distilled Water/de-ionized water,	Iodine content, 3.4, Table 1
7	Standard Hydrochloric Acid, Methyl orange indicator Pipette, Burette	Alkalinity Cl. 4.3, Table 1
8	Nessler cylinder, Acetic acid, Dilute ammonium hydroxide, Potassium cyanide solution, Sodium sulphide solution, Standard lead solution, weighing balance Atomic absorption spectrophotometer with air acetylene burner or nitrous oxide burner and a graphite furnace, Hollow cathode or electrodeless discharge lamps, furnace capable of maintaining $450 \pm 25^\circ\text{C}$, Hot plate, Quartz or Platinum dishes, Polystyrene bottles with leak proof closures. Water redistilled or deionized 20 percent sulphuric acid Hydrochloric acid (6N), Nitric acid (0.1 M), Nitric acid concentrate, Lead standard solution, working standard solution, weighing balance, silica dish, glass stirring rod, water bath/oven, bunsen burner	Lead Cl. 4.3, Table 1 Chemical method Atomic absorption spectrophotometric method
9	Analytical weighing balance, Arsenic trioxide, Lead acetate solution, lead acetate paper strips, mercuric bromide solution, Sensitized Mercuric Bromide Paper Strips, Dilute Sulphuric Acid Concentrated Hydrochloric, Potassium Iodide Solution - 15 percent, Stannous Chloride Solution, Zinc - granules, of size 0.5 to 1.0 mm., Standard Arsenic Stock Solution, Silver Diethyldithiocarbamate Solution	Arsenic Cl. 4.3, Table 1 Method I

	Evolution and absorption apparatus consisting of conical flask, connection tube, absorption tube, spring clip. Spectrophotometer or Photoelectric Absorptiometer Potassium Iodide , Stannous Chloride Solution, Zinc Shots, Silver Diethyl Dithio carbamate, conical flask, dry lead acetate paper, glass wool/cotton	Method II
10	Nessler cylinder Thioglycolic Acid, Concentrated Ammonium Hydroxide, Standard Iron Solution, Dilute Standard Iron Solution. Pipette,	Iron Cl. 4.3, Table 1
12	4.00mm IS Sieve, 1 mm IS sieve, 150 micron IS sieve, Weighing balance, Collection pan/bowl	Particle Size, 3.3

List above is only indicative and may not be taken as exhaustive.

ANNEX - B
SCHEME OF INSPECTION AND TESTING
FOR IODIZED SALT, VACUUM EVAPORATED IODIZED SALT AND REFINED
IODIZED SALT
ACCORDING TO IS 7224:2006

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 AND MARKING – The Standard Mark, as given in the Schedule of the licence, shall be stenciled/printed on each package of Iodized Salt, Vacuum Evaporated Iodized Salt And Refined Iodized Salt, provided always that the material in each package to which this mark is thus applied, conform to every requirement of the specification.

3.1 Packing and marking shall be done as per the provision of the Indian Standard. In addition, the following details shall be mentioned on each package legibly and indelibly:

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 material manufactured continuously in 24 hours or premix ground/refined at a time shall constitute one 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.

5.2 On the basis of the test results, decision regarding the conformity otherwise of the material to the requirements of the specification shall be made as follows:

5.2.1 One sample shall be drawn at every two hours and tested for Iodine content. In case of failure the material produced during the period shall be rejected and sample at every ½ hr shall be tested till three samples pass. The material thus rejected may be reprocessed. The reprocessed material may be marked if sample drawn from the material passes all the requirements including iodine content.

5.2.2 One sample shall be drawn at every 8 hours and tested for the requirement of description, moisture and particle size. If the sample fails, in any of these requirements, the entire 8 hrs production shall be considered unfit for the purpose of marking.

5.2.3 A composite sample shall be prepared from all the samples drawn from each shift production in a day, which were found to have passed the requirements of description, moisture content, particle size and iodine content. This sample when tested shall conform to all the other requirements of the specification, (See Table 1 of the Scheme). If the sample fails, in any of these requirements, the day's production shall be considered unfit for the purpose of marking.

5.2.4 The material may contain anticaking agents as permitted under the Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011 subject to a maximum 2 percent by mass, either singly or in combination. Further, when calcium, potassium or sodium ferrocyanide are used as crystal modifiers and anticaking agents, their quantity should not exceed 10 mg/kg, on dry basis, either singly or in combination expressed as ferrocyanide when tested by the method prescribed in Annex B of IS 7224.

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
LEVELS OF CONTROL

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Methods Cl. Ref.	Test Method IS		No. of Sample	Frequency	Remarks
4.1	Description	4.1	IS 7224	R	one	8 hours production	Pl see Para 4.1.2
4.2	Particle size	4.2	-do-	R	one	-do-	-do-
4.3 & Table 1	i)Moisture	Annex A	-do-	R	one	do-	-do-
-do-	ii)Water insoluble matter	Annex C	-do-	R	One composite sample	Each control unit	Pl. See Para 4.1.3
-do-	iii)Chloride content (as NaCl)	A-5	IS 253	R	-do-	-do-	-Do-
-do-	iv)Matter insoluble in water other than sodium chloride	Annex D	IS 7224	R	-do-	-do-	-do-
-do-	v)Calcium	Annex E	-do-	R	-do-	-do-	-do-

-do-	vi)Magnesium (as Mg)	Annex E	-do-	R	-do-	-do-	-do-
-do-	vii)Sulphate (as SO ₄)	Annex F	-do-	R	-do-	-do-	-do-
-do-	viii)Iodine content	Annex G	-do-	R	One	Every 2 hrs production	Pl see Para 4.1.1
-do-	ix) Alkalinity (as Na ₂ CO ₃)	Annex H	-do-	R	One composite sample	Each control unit	Pl see Para 4.1.3
-do-	x)Lead (as Pb)	Annex J	-do-	S	One sample	Once a month	In case the sample fails, the firm has to test samples from five continuous control units, before resorting to once a month frequency
-do-	xi)Arsenic (as As)	Annex K	-do-	R	One composite sample	Each control unit	-do-
-do-	xii)Iron (as Fe)	Annex L	-do-	R	-do-	-do-	-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 approval by BO Head.