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उत्पाद मैनुअल

पोटैशियम कार्बोनेट, अनहाइड्रोस — विशिष्टि

7129: 2021 के अनुसार

**PRODUCT MANUAL FOR
POTASSIUM CARBONATE, ANHYDROUS — SPECIFICATION
ACCORDING TO IS 7129: 2021**

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 7129: 2021
	शीर्षक Title	:	POTASSIUM CARBONATE, ANHYDROUS - SPECIFICATION
	संशोधनों की संख्या No. of amendments	:	01
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	Not Applicable 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	:	Sample of each grade needs to be drawn

c)	नमूने का परिमाण Sample Quantity	:	500 gm 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	:	1. Grades 2. Optional Requirements 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 to Annex -A
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer to Annex -B
5.	एक दिन में संभावित परीक्षण Possible tests in a day		
	Total Alkalinity, Potassium Bicarbonate or Free Alkali, sulphates, Chlorides, Matter insoluble in water, Iron, Heavy Metals (As Pb), loss on heating, Sodium, Calcium, Magnesium 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 ready reference 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:		
	IS 7129 : 2021 के अनुसार मानक मुहर का उपयोग करने के लिए लाइसेंस निम्नलिखित कार्यक्षेत्र के लिए प्रदान किया जाता है "Licence is granted to use Standard Mark as per IS 7129 2021 with the following scope:		
	Name of the product		POTASSIUM CARBONATE- ANHYDROUS SPECIFICATION
	Grades		As Applicable (Pure Grade or Technical Grade)
	Optional Requirements		Used as Dehydrating Agent

ANNEX– A

LIST OF TEST EQUIPMENTS
(INDICATIVE LIST, FOR GUIDANCE ONLY)

Sr.No	Test Clause	Test Equipment
1	TOTAL ALKALINITY Annex A-2 of IS 7129: 2021	Standard Hydrochloric Acid, Methyl Orange Indicator Solution, Weighing Balance (LC 0.01g), Stoppered Weighing Bottle, Sintered Crucible Glass No 4, 250ml Volumetric Flask, Burette, Pipette, Measuring Cylinder, Distilled Water
2	POTASSIUM BICARBONATE / FREE ALKALI Annex A-3 of IS 7129: 2021	Barium Chloride Solution, Sodium Hydroxide Solution, Standard Hydrochloric Acid, Phenolphthalein Indicator, Weighing Balance (LC 0.01g), Stoppered Weighing Bottle, Sintered Crucible Glass No 4, 250ml Volumetric Flask, Burette, Pipette, Dropper, Conical Flask
3	DETERMINATION OF SULPHATES Annex A-4 of IS 7129: 2021	Dilute Hydrochloric Acid, Barium Chloride Solution, Weighing Balance(LC 0.01g),Electric Oven, Hot Plate, Sintered Crucible Glass No 4 or Tared Gooch, Filter Paper
4	TEST FOR CHLORIDES Annex A-5 of IS 7129: 2021	NESSLER CYLINDER METHOD: Nessler Cylinders(50ml), Dilute nitric acid, Silver nitric solution, Silver Nitrate Solution, Sodium chloride, Volumetric Flask (1000ml), Electric Oven, Weighing Balance (1mg), Pipette VOLUMETRIC METHOD: Silver nitrate solution, Potassium thiocyanate solution, Ferric nitrate solution (40 percent), Chloride free water, Potassium chloride solution (0.02 percent), Concentrated nitric acid, Nitrobenzene, Burette, Pipette, Potassium Carbonate, Ferric Nitrate Indicator, Weighing Balance (LC 0.01g)
5	DETERMINATION OF MATTER INSOLUBLE IN WATER A-6 of IS 7129:2021	Weighing Balance(0.01g), 400ml Beaker, Hot plate, Tared Gooch Crucible or sintered glass crucible(G. No. 4), Electric Oven

6	TEST FOR IRON Annex A-7 and Annex A- 12 of IS 7129: 2021	Method: A Nessler cylinder (50ml), Dilute hydrochloric acid, Ammonium persulphate, Potassium thiocyanate solution, Dilute sulphuric acid, Standard iron solution, Weighing Balance (1mg), Volumetric Flask (1000ml), Pipette. Method: B Spectrophotometer, Ferrous ammonium Sulphate, Conc Sulphuric Acid, Volumetric Flask (1000ml), Hydroxylamine hydrochloride, Volumetric Flask (100ml), O- phenanthroline, Ethyl Alcohol, Dark bottle with ground glass Stopper, Glacial acetic acid, Volumetric Flask(500ml) Sodium acetate buffer solution, Dilute sulphuric acid, Dilute ammonium hydroxide, Volumetric Flask(100ml), 1L Conical Flask, Hydrochloric Acid, Volumetric Flask (250ml) Method: C ICP-OES as per Annex A-12 of IS 7129: 2021
7	<u>TEST FOR HEAVY METALS</u> <u>(AS PB)</u> Annex A-8 and Annex A- 12 of IS 7129: 2021	Method: A Nessler cylinders(50ml), Dilute hydrochloride acid, Dilute ammonium hydroxide solution, Potassium cyanide solution, Acetic acid, Hydrogen sulphide solution, lead Nitrate, 1L Volumetric Flask Method: B Spectrophotometer, pH meter, Weighing Balance(1mg), Standard Volumetric Glass wares, TEF Beakers(100ml), Separatory Funnels (250ml, 500ml), Lead Nitrate, Conc HNO₃, Conc Nitric Acid, Dilute Nitric Acid, Conc. Ammonium hydroxide, Dilute Ammonium hydroxide, Anhydrous Ammonium Citrate, Anhydrous Sodium Sulphite, Hydroxylamine hydrochloride, Potassium Cyanide, Dithizone, Chloroform, Whatman No. 42, Filter Paper, solution, Whatman No. 41 Method: C ICP-OES as per Annex A-12 of IS 7129: 2021 Method: D 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+25oC, 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 steam bath/oven, Bunsen burner
8	DETERMINATION OF LOSS ON HEATING AT 150 °C Annex A-9 of IS 7129: 2021	Weighing Bottle, Electric Oven, Desiccator, Weighing Balance(1mg),
9	DETERMINATION OF SODIUM Annex A-10 and Annex A-12 of IS 7129: 2021	Method A Flame Photometer equipped with atomizer , Burner, optical selective device consisting of reflectors, lenses and diaphragms and suitable filter, Measuring Instrument consisting of photocells, an amplifier and sensitive galvanometer (0-100 Divisions), Sodium Chloride, Deionized Water, Weighing Balance(1mg) Method: B ICP-OES as per Annex A-12 of IS 7129: 2021
10	DETERMINATION OF CALCIUM AND MAGNESIUM Annex A-11 and Annex A- 12 of IS 7129: 2021	Method: A 50ml Conical Flask, Triethanolamine, Sodium Hydroxide, Ethanol, glyoxal-bis-(2-hydroxyanil) solution, Sodium Hydroxide, EDTA, Burette and Pipette, Mordant Black, Heater Method: B ICP-OES as per Annex A-12 of IS 7129: 2021
11	DETERMINATION OF LEAD, IRON, CALCIUM, MAGNESIUM, SODIUM BY INDUCTIVELY COUPLED PLASMA OPTICAL EMISSION SPECTROMETER (ICP-OES) METHOD Annex A-11 and Annex A-12 of IS 7129: 2021	ICP – OES, Nitric acid (65 percent) Suprapure, Soluble Compounds of Elements (Preferably Spectroscopic Grade) or certified stock solution of 10, 100 or 1 000 µg/ml of lead, Iron, calcium, magnesium, sodium in 2-5 percent nitric acid or Single stock solution of multi elemental standards, Pipette, 100ml Volumetric Flask, 50ml Volumetric Flasks, 2 % Nitric Acid, polyphosphoric acid, Weighing Balance (0.01g), HDPE or PP container or PTFE container

ANNEX B

SCHEME OF INSPECTION AND TESTING

1. QUALITY ASSURANCE PLAN

1.1 It is expected that manufacturers (licensees/applicants) will implement a Quality Assurance Plan 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 defining the control unit (i.e. lot/batch etc.) and the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and submit the same to BIS Branch Office for information. The manufacturer shall comply with the same and maintain test records in accordance with para 2.4.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 Two types of units producing Potassium Carbonate are envisaged. Manufacturing units are those units which manufacture and dispatch Potassium Carbonate and Repacking units are those which procure ISI marked Potassium Carbonate from a Potassium Carbonate manufacturing unit holding valid BIS licence, repack it and dispatch it under their own mark.

For the guidance of manufacturers, the recommended definition of control unit is :

Manufacturing Unit - Each grade (as applicable) of Potassium Carbonate produced in a continuous run in a day

For Repackaging unit: The entire quantity of material repackaged in one day from a single batch of ISI marked Potassium Carbonate received.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in **Table 1**.

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. Alternatively, the manufacturer has the option of adherence to the quality plan as per levels of control recommended in column 3 of Table 1.

1.4 However, all manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard.

2. ENSURING COMPLIANCE THROUGH TESTING- It is expected that manufacturers (licensees/applicants) will establish a suitably equipped and staffed in house laboratory (In house testing facility) for testing at least those parameters of the Indian Standard which require routine testing for ensuring quality of the product. This includes in-process controls as may be defined and put in place by the manufacturer and testing parameters/requirements which can only be performed in the factory.

2.1 For the guidance of manufacturers, Table 1 giving the recommended levels of control is given below. Column 2 of Table 1 indicates routine tests where test equipment is required in house as "R" or other tests which can be subcontracted as "S". Subcontracting is permitted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.2 For MSME manufacturers, the requirement of maintaining a laboratory/in-house testing facility for routine tests (indicated as “R” in Column 2 of Table 1) is also optional.

2.2.1 MSME manufacturers may utilize common cluster based facilities as per guidelines for the utilization of cluster based test facilities by MSMEs or the provisions of Sharing of testing facilities or get testing done from BIS recognized/empaneled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.3 Large Scale manufacturers shall maintain an in-house laboratory equipped at least with test facilities for routine tests (indicated as “R” in Column 2 of Table 1), where different tests given in the specification shall be carried out in accordance with the method given in the specification. They shall also implement a calibration plan for the in-house test equipment.

2.3.1 Alternatively, in lieu of an in-house laboratory, large scale manufacturers can also utilize the provisions of Sharing of testing facilities as per the Guidelines for Grant of Licence available on BIS website www.bis.gov.in. (Under Conformity Assessment>Product Certification Process). Even for subcontracted tests, provisions for sharing of testing facilities can be utilized.

2.4 TEST RECORDS- The manufacturers maintaining an in-house laboratory or utilizing common cluster based facilities or shared test facilities shall maintain test records for the tests carried out to establish conformity. For the tests being subcontracted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025, test reports issued by the laboratories shall be 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 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: The material shall also be marked with the following additional requirement on:

- a) “For BIS Certification details please visit www.bis.gov.in”
- b) For Repackaging units the following shall be marked in place of the 5.2 (b) of IS 7129 : 2021
 - I. Name of original manufacturer of Potassium Carbonate with BIS licence number
 - II. The Name of the Repackaging unit and his recognized trade mark, if any

4. REJECTION - All 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
(ONLY FOR GUIDANCE PURPOSE)

(1)					(2)	(3)		
SI No.	Test Details				Test equipment requirement R:required (or) S:Subcontracting permitted	Levels of Control		
	Cl.	Requirement	Test Method Clause	Reference		No. of Sample	Frequency	Remarks
1	4.1	Description	4.1	IS 7129	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		
2	4.2	Size	4.2	IS 7129	R	The particle size for the granular form shall be as agreed to between the purchaser and supplier		
3 (i)	4.3 Table 1	Total Alkalinity	A-2 of ANNEX A	IS 7129	R	One	Each Control Unit	
(ii)	4.3 Table 1	Potassium bicarbonate or Free Alkali	A-3 of ANNEX A	IS 7129	R	One	Each Control Unit	
(iii)	4.3 Table 1	Sulphates	A-4 of ANNEX A	IS 7129	R	One	Each Control Unit	
(iv)	4.3 Table 1	Chlorides	A-5 of ANNEX A	IS 7129	R	One	Each Control Unit	
(v)	4.3 Table 1	Matter insoluble in water	A-6 of ANNEX A	IS 7129	R	One	Each Control Unit	
(vi)	4.3 Table 1	Iron	A-7 & A-12 of ANNEX A	IS 7129	R	One	Each Control Unit	
(vii)	4.3 Table 1	Heavy Metals(as Pb)	A-8 & A-12 ANNEX A	IS 7129	S	One	Once a month	
(viii)	4.3 Table 1	Loss on heating	A-9 of ANNEX A	IS 7129	R	One	Each Control Unit	
(ix)	4.3 Table 1	Sodium	A-10 & A-12 of ANNEX A	IS 7129	R	One	Each Control Unit	
(x)	4.3 Table 1	Calcium	A-11 & A-12 of ANNEX A	IS 7129	R	One	Each Control Unit	
(xi)	4.3 Table 1	Magnesium	A-11 & A-12 of ANNEX A	IS 7129	R	One	Each Control Unit	
4	4.4	Optional Requirement	4.4	IS 7129	R	The material when intended to be used a dehydrating agent shall be dried at 120°C		

TABLE 2
RECORD OF POTASSIUM CARBONATE (REPACKAGED)

Sl. No.	Name of the manufacturer	Particulars of test reports received with C.U/Batch no.	Date of manufacture	Quantity received	Date of receipt	Date of repacking	Batch no.	Details of repacking		Total quantity repacked	Details of dispatch
								Size of Packing	No		
1	2	3	4	5	6	7	8	9	10	11	12