



उत्पाद मैनुअल

IS 695:2020 के अनुसार

PRODUCT MANUAL FOR
ACETIC ACID
ACCORDING TO IS 695:2020

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 695: 2020
	शीर्षक Title	:	Acetic Acid- Specification
	संशोधनों की संख्या No. of amendments	:	3
2.	नमूना दिशानिर्देश Sampling Guidelines:		
a)	कच्चा माल Raw material	:	NA
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Please refer ANNEX – <u>A</u>
c)	नमूने का परिमाण Sample Quantity	:	500 g
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer ANNEX – <u>B</u>
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer ANNEX – <u>C</u>

5.	एक दिन में संभावित परीक्षण Possible tests in a day:	
	All the tests mentioned in the IS are possible to be carried out in a day	
6.	Scope of the Licence:	
	-Licence is granted to use Standard Mark as per IS 695:2020 with the following scope:	
	Name of the product	Acetic Acid
	Grade/Variety	Technical/Pure/Analytical Reagent (AR)

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN,9, BAHADUR SHAH ZAFAR
MARG,NEW DELHI-110002

ANNEX-A

GROUPING GUIDELINES

1. Each grade intended to be covered in the scope of the licence is to be tested.
2. Scope of licence shall be restricted based on the manufacturing and testing facilities available.
3. During operation of licence, samples of each grade covered in the scope of licence, shall be tested in rotation, to the extent possible

ANNEX B
LIST OF TEST EQUIPMENT

(INDICATIVE LIST, FOR GUIDANCE ONLY)

Sl. No.	Tests used in with Clause No.	Test Chemicals/ Equipment List
1.	Description Cl.4.1	Visual
2.	Color, Hazen units Cl.4.2 and Clause 4.3, Table 1(iii),	Color comparator Spectrophotometer Filter Paper/ Centrifuge Boiling Water bath Cobalt Chloride Hydrochloric Acid Potassium chloro Platinate Nessler's Tubes Chloroplatinic acid
3.	Solubility in water, Clause 4.3, Table 1(i),	Distilled Water, Test Tubes
4.	Relative density at 27/27°C Clause 4.3, Table 1(ii),	Standard hydrometer/ Westphal hydrostatic balance/ Relative density bottle or pycnometer Water Bath Distilled Water Jar , Filter Paper
5.	Acetic acid content (CH ₃ COOH) Clause 4.3, Table 1(iv),	Weighing Balance Lunge-Rey Pipette Conical Flask - 250-ml Phenolphthalein - 0.1 g 60% ethyl alcohol Standard Sodium Hydroxide Solution - 1 N Formic Acid Distilled Water
6.	Crystallizing point, °C, Clause 4.3, Table 1(v),	Test-Tube and Thermometer as specified in ISS Cooling water bath
7.	Residue on evaporation Clause 4.3, Table 1(vi),	silica basin, Desiccator Hot Air Oven, Weighing Balance Water Bath
8.	Chlorides (as Cl), Clause 4.3, Table 1(vii),	Volumetric flask - 250 ml Nessler Cylinders - 100 ml Pipette Dilute Nitric Acid - approximately 5 N Silver Nitrate Solution - 5% (m/v) Standard Chloride Solution Petroleum Hydrocarbon Solvent Glass rod

9	Iron (as Fe) Clause 4.3, Table 1(viii),	Nessler Cylinders - 50-ml Pipette, Volumetric Flask Concentrated Hydrochloric Acid Thioglycolic Acid - 50% Ammonium Hydroxide - relative density 0.92 at 25/25°C. Standard Iron Solution : a. Ferrous ammonium sulphate b. Concentrated sulphuric acid Bunsen Burner Filter Paper Or ICP-OES may also be used for determination of iron (as Fe)
10	Sulphates (as SO ₄) Clause 4.3, Table 1(ix),	Nesellers Cylinder - 50-ml Sodium Carbonate Solution - 1 N Dilute Hydrochloric Acid - 1 N Barium Chloride Solution Standard Sulphate Solution Standard Sulphuric Acid - 0.01 N 250-ml beaker Potassium Sulphate Distilled Water Water Bath Filter Paper Glass Rod
11	Heavy metals (including iron) calculated as Pb , Clause 4.3, Table 1(x),	Nessler Cylinders - 50-ml Ammonium Hydroxide - relative density 0.92 at 25/25°C Litmus Paper Sodium Sulphide Solution Standard Lead Solution/ Lead Nitrate Pipette Weighing balance Formic Acid Sodium Hypo bromide (Bromine & Sodium Hydroxide) Potassium Iodide Solution Dilute Hydrochloric Acid Standard Sodium Thio sulphate Solution Iodine Flask Or ICP-OES may also be used for determination of Heavy metals (including iron) calculated as Pb
12	Formic acid (HCOOH) Clause 4.3, Table 1(xi),	Sodium Hypobromite Solution -0.1 N a. Bromine b. Sodium Hydroxide Potassium Iodide Solution - approximately 25% Dilute Hydrochloric Acid - approx. 5 N Standard Sodium Thiosulphate Solution - 0.1 N Two iodine flasks
13	Acetaldehyde, (CH ₃ CHO) Clause 4.3, Table 1(xii),	Sodium Hydrogen Sulphite Solution - approx. 1.25%, Standard Iodine Solution - 0.1 N 250-ml glass stoppered flask Distilled Water Weighing Balance Pipette

14	Oxidizable impurities Clause 4.3, Table 1(xiii),	Potassium Permanganate Solution 0.1 N, 250 ml volumetric flask, 100 ml test tube, Pipette Weighing Balance
15	Water content Clause 4.3, Table 1(xiv),	Karl Fischer Reagent Methanol -Shall not contain more than 0.05% of water 2- Methoxy ethanol (Ethylene Glycol Monomethyl Ether) - Shall not contain more than 0.05 percent of water Iodine Pyridine Sulphur Dioxide dried flask - coloured brown or painted black on the outside, fitted with a ground-glass stopper and having a capacity slightly more than 1 litre. Ice bath Thermometer inlet glass tube of 6 to 8 mm Sodium Tartrate, Water-Methanol Standard Solution- 10 mg/ml, Water-Methanol Solution - Approx. 2 g/l, Aluminium Sodium Silicate/Activated Silica Gel Hot Air Oven Desiccator Karl Fischer titrator with electrometric end point detection Syringe Sulphur Dioxide, Brown or Black Painted Glass Flask with stopper, Capacity more than 1 Litre Weighing Balance Ice Bath or Crushed Solid Carbon Dioxide Pipette Burette, Volumetric Flask, Silicone Based Grease
16	Arsenic Content	Bottle Tubes Tweezers Distilled Water (free from Arsenic) Standard Arsenic Solution Dry lead acetate paper/ strip Lead acetate solution Mercuric Bromide paper/ strip Hydrochloric Acid, Dilute Sulphuric acid Stannous chloride solution Cotton wool, Potassium iodide solution, Zinc/ Zinc Granules, Bromine

ANNEXURE- C

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 For the guidance of manufacturers, the recommended definition of control unit is : the entire quantity of the material (of same grade) produced in a day from similar raw materials shall constitute a control unit.

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/empanelled 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 packaging 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 Each Container shall bear the caution label worded as under

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3.3 Additional Marking requirements: The material shall also be marked with the following additional requirement on each packaging:

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

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 LEVELS OF CONTROL

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or)S:Sub-contracting permitted	Levels of Control		
					No. of Sample	Frequency	Remarks
Cl.	Requirement	Test Method					
		Clause	Reference				
4.1	DESCRIPTION	4.1	IS 695:2020	Firm to have adequate in-process controls to check compliance of this parameter as given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity.			
4.3, Table 1	REQUIREMENTS						
i.	Solubility in water	A-1	IS 695:2020	R	-do-	-do-	
ii	Relative density at 27/27°C	6	IS 82:1973	R	-do-	-do-	
iii	Colour		IS 8768	R	-do-	-do-	-
iv	Acetic acid content (CH ₃ COOH)	A-2	IS 695:2020	R	-do-	-do-	
iv.	Crystallizing point	A-3	IS 695:2020	R	-do-	-do-	
v.	Residue on evaporation	A-4	IS 695:2020	R	-do-	-do-	
vi.	Chlorides (as Cl)	A-5	IS 695:2020	R	-do-	-do-	
vii.	Iron (as Fe)	A-6	IS 695:2020	R	-do-	-do-	
viii.	Sulphates (as SO ₄)	A-7	IS 695:2020	R	-do-	-do-	
ix.	Heavy metals	A-8	IS 695:2020	R	-do-	-do-	
x.	Formic acid (HCOOH)	A-9	IS 695:2020	R	-do-	-do-	
xi.	Acetaldehyde (CH ₃ CHO)	A-10	IS 695:2020	R	-do-	-do-	
xii	Oxidizable impurities	A-11	IS 695:2020	R	-do-	-do-	
xiii	Water content	IS 2362	IS 2362	R	-do-	-do-	
xiv	Arsenic	IS 2088	IS 2088	R	-do-	-do-	

