



**PRODUCT MANUAL
FOR ISOPROPYL ALCOHOL
ACCORDING TO IS 2631: 2020**

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 license/certificate.

1	Product	:	IS 2631: 2020
	Title	:	ISOPROPYL ALCOHOL
	No of Amendments	:	NIL
2	Sampling Guidelines		
A	Raw Material	:	No specific requirement
B	Grouping Guidelines	:	NA – No varieties specified in standard
C	Sample Size	:	Minimum 100 ml
3	List of Equipment	:	Please refer Annex- <u>A</u>
4	Scheme of Inspection and Testing	:	Please refer Annex- <u>B</u>
5	Possible Test in a day	:	All tests
6	Scope of the license		
	License is granted to use Standard Mark as per IS 2631: 2020 with the following scope:		
	Name of the Product		Isopropyl alcohol

ANNEXURE A

LIST OF TEST EQUIPMENT

List of test equipment required to test as per the Indian Standard

SI. No	Tests used in with Clause Reference	Test Equipment
1-i	Relative Density at 27/27°C Reference Method A1 of IS : 229	<ul style="list-style-type: none"> • 50 ml Capacity Relative Density bottle.of Regnault type • Thermometer (0 to 100°C) • Water Bath • Filter Paper • Weigh balance
1- ii	Distillation Range Reference Method P: 18 of IS 1448 : 2020	<p>APPARATUS:Manual or Automated apparatus</p> <p>Manual Apparatus:</p> <ul style="list-style-type: none"> • Distillation Flasks ; Distillation flask, 125 mL, borosilicate glass • Condenser and Cooling Bath: 560 mm length, 14 mm in outside diameter, • Metal Shield or Enclosure for Flask: 480 mm high, 280 mm long, 200 mm wide, made of sheet metal of approximately 0.8 mm. • Heat Source: Gas burner/Electric heater • Thermometer or temperature indicator <p>Flask Support: type1(for burner)/type2for electric heater</p> <ul style="list-style-type: none"> • Graduated Cylinder: Measuring cylinder, 100 mL, complete with metal base, without Schell bach strip Graduated cylinder, 5 mL, for measuring distillation residue with funnel-shaped opening • Pt100 sample temperature sensor Centering holder for Pt100 sample temperature sensor. Holder for Pt100 sample temperature sensor. • Cleaning Cleaning wire with grip, 100 cm Cleaning felt. • Stopper Silicone stopper 22/55, bore 6 mm Boiling stones against boiling retardation <p>Barometer, levelling device, centering device</p>

1 - iii	Residue on evaporation Table 1 Clause 5.1 A- 1	APPARATUS <ul style="list-style-type: none"> • Platinum or borosilicate or silica crucible of 150 ml capacity. • Water –bath with controlling temperature • Oven with controlling temperature • Measuring cylinder 100 ml capacity • Desiccators • weigh balance
1 – iv	Acidity (as CH₃COOH) Reference Method A4 of IS : 229	Reagent <ul style="list-style-type: none"> • Rectified Spirit 95% • Phenolphthalein Indicator • Standard Sodium Hydroxide Solution – 0.1N APPARATUS <ul style="list-style-type: none"> • 50 ml Auto Burette • 1 ml Graduate Pipette • 100 ml Measuring cylinder • Weigh balance
1 - v	Aldehydes and Ketones Table 1 Clause 5.1 A -2	Reagent <ul style="list-style-type: none"> • Standard Sodium Hydroxide Solution – 0.01N • Carbonyl Free Ethanol • 2,4 Di nitro phenyl hydrazine • Hydrochloric acid • Bromophenol Blue APPARATUS <ul style="list-style-type: none"> • Weigh balance • 50 ml measuring cylinder • 5 ml Graduate pippete • Reflux Column (300*25 mm) • 100 ml volumetric flask • 20 ml pippete • 5 ml Volumetric Pippete • 200 ml Volumetric flask • Water Bath • 25 ml Volumetric Pippete • 250 ml conical flask Alternate: Capillary Gas chromatograph
1 - vi	Water Content Reference Method IS 2362	APPARATUS <ul style="list-style-type: none"> • Automatic Burette • 10 to 25 ml capacity with a fine pointed tip and graduations of 0.05 • Titration Vessel : 100 ml capacity • Electrode : Double platinum • Magnetic stirrer with PTFE coated stirring bar. • Electrometric end point detection device utilizing a micrometer • Glass syringe, Suitable capacity. • Aluminum Sodium Silicate/Activated Silica Gel • Silicone Base Grease

		<p>REAGENTS</p> <ul style="list-style-type: none"> • Methanol • 2-Methoxyetbanol (Ethylene Glycol Monomethyl Ether) • Iodine • Pyridine • Karl Fischer Reagent • Sodium Tartrate Crystalline
<p>1-vii and viii</p>	<p>Purity as Propane-2-ol (Isopropyl alcohol) and Benzene Content (Clause A 3.1, A 3.2, A 3.2.1)</p>	<p>REAGENT (CRM)</p> <ul style="list-style-type: none"> • Isopropyl alcohol • Acetone • Di isopropyl alcohol • 2-Butanol • Cyclohexane • Standard Benzene solution <p>APPARATUS</p> <ul style="list-style-type: none"> • Gas Chromatography with Flame ionization Detector. • Capillary Column (60 m * 0.25 mm * 0.5 μ) • Syringe (10 ul) <p>Utility Gases</p> <ul style="list-style-type: none"> • Air (Pure Grade) • Nitrogen/Helium (Pure Grade) • Hydrogen (Pure Grade)

This is an indicative list and may not be taken as being exhaustive

ANNEXURE B

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 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 marked on the container provided always that material so marked conform to requirements of the specification.

3.1 Packing and Marking shall be done as per the provisions of the Indian Standard. In addition, the following shall be incorporated on each container:

- i) BIS License Number CM/L—and
- ii) 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 quantity of the material of the same grade produced in a continuous run of not more than 8 hours 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 license 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
LEVELS OF CONTROL

SI No.	(1)				(2)	(3)			
	Test Details					Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
	cl.	requirement	Test method				No. of Sample	frequency	Remarks
Clause			Reference						
	3.1	Description	3.1	IS 2631:2020	R	One	Each Control Unit		
	3.2	Odour	3.2	-do-	R	One	-do-		
i)	3.3, Table 1	Relative Density at 27/27°C	A-1,1.1, A-2,2.1 A-3	A1 of IS 229 :1993	R	One	-do-		
ii)	3.3, Table 1	Distillation range		Method B in [P:18] of IS 1448: 2020 Automatic Distillation Unit	R	One	-do-		
iii)	3.3, Table 1	Residue on evaporation	Clause 5.1 A 1.1	IS 2631 : 2020	R	One	-do-		
iv)	3.3, Table 1	Acidity (as CH ₃ COOH), g/100 ml	C-1,2,3	A1 of IS 229 :1993	R	One	-do-		
v)	3.3, Table 1	Aldehyde and ketones	Clause 5.1 A 2.1, 2.2,2.3.	IS 2631 : 2020	R	One	-do-		
vi)	3.3, Table 1	Water content, percent by mass		IS 2362	R	One	-do-		
vii)	3.3, Table 1	Purity as Propane-2-ol (Iso propyl alcohol)	Clause 6.1 A 3.1,3.2,3.3 A 4.1,4.2,4.3	IS 2631 : 2020	R	One	-do-		
viii)	3.3, Table 1	Benzene Content	Clause 6.1 A 3.1,3.2,3.3 A 4.1,4.2,4.3	IS 2631 : 2020	R	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 empaneled 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.