Isopropyl Alcohol 99%

Grade: USP/EP/BP/JP

Catalog number: 231USP/EP

Test	Mono-graph	Specification	Typical Result
Assay	USP	NLT 99.0%	99.94 %
Appearance	EP/BP	The solution is clear and colourless	Pass
Appearance	JP	Clear, colorless liquid	Pass
Characters / Solubility	EP/BP	Appearance: clear, colourless liquid. Solubility: miscible with water and with ethanol (96 per cent).	Pass
Solubility	JP	Miscible with water, ethanol, methanol, diethyl ether	Pass
Purity 1- Clarity of Solution	JP	Solution is Clear	Pass
Specific Gravity	USP	0.783 - 0.787 @25°C	0.783
Specific Gravity	JP	0.785-0.788 @ 20°C	0.787
Identification A - Relative Density	EP/BP	0.785 - 0.789 g/ml @ 20°C	0.785
Identification A - Infrared Spectroscopy	USP	To Pass Test	Pass
Identification C - Infrared Absorption	EP/BP	Compares to standard	Pass
Identification Test 1	JP	Light yellow precipitate is formed	Pass
Identification Test 2	JP	Filter paper turns red-brown color	Pass
Identification B	USP	To Pass Test	Pass
Identification C - Limit of Methanol	USP	NMT 0.02%	Pass
Identification D	EP/BP	The entire sulfuric acid layer turns violet	Pass

Test	Mono-graph	Specification	Typical Result
Identification B - Refractive Index @ 20°C	EP/BP	1.376-1.379	1.377
Refractive Index @ 20°C	USP	1.376-1.378	1.377
Limit of Nonvolatile Residue	USP	NMT 2.5 mg (0.005%)	0.0 mg
Purity 3 - Residue on Evaporation	JP	NMT 1.0mg/20mL	0.0 mg
Nonvolatile Substances	EP/BP	NMT 20ppm	0 ppm
Acidity	USP	NMT 0.70 ml of 0.020N NaOH is required	0.50 ml
Acidity or Alkalinity	EP/BP	To Pass Test	Pass
Purity 2 - Acidity	JP	To pass Test	Pass
Benzene and related substances - Benzene (by GC)	EP/BP	NMT 2 ppm	0 ppm
Benzene and related substances – Total of Impurities	EP/BP	NMT 0.3%	0.1 %
Limit of Volatile Impurities - Methanol	USP	NMT 0.02%	LT 0.02%
Limit of Volatile Impurities - Diethyl Ether	USP	NMT 0.1%	LT 0.1%
Limit of Volatile Impurities - Acetone	USP	NMT 0.1%	None Detected
Limit of Volatile Impurities - Diisopropyl Ether	USP	NMT 0.1%	LT 0.1%
Limit of Volatile Impurities - n-Propyl Alcohol	USP	NMT 0.1%	LT 0.1%
Limit of Volatile Impurities - 2-Butanol	USP	NMT 0.1%	LT 0.1%
Limit of Volatile Impurities - Individual unspecified	USP	NMT 0.1%	LT 0.1%

Test	Mono-graph	Specification	Typical Result
Limit of Volatile Impurities - Total	USP	NMT 1.0%	LT 0.1%
Absorbance @ 230nm	USP	NMT 0.30	0.09
Absorbance @230nm	EP/BP	0.30 max.	0.09
Absorbance @ 250nm	USP	NMT 0.10	0.02
Absorbance @250nm	EP/BP	0.10 max.	0.02
Absorbance @ 270nm	USP	NMT 0.03	0.00
Absorbance @270nm	EP/BP	0.03 max.	0.00
Absorbance @ 290nm	USP	NMT 0.02	0.00
Absorbance @290nm	EP/BP	0.02 max.	0.00
Absorbance @ 310nm	USP	NMT 0.01	0.00
Absorbance @310nm	EP/BP	0.01 max.	0.00
Absorbance Curve	USP	The spectrum shows a steadily descending curve with no observable peaks or shoulders.	Pass
Absorbance	EP/BP	The spectrum shows a steadily descending curve with no observable peaks or shoulders	Pass
Peroxides Test	EP/BP	No color develops	Pass
Distilling Range 81-83°C	JP	More than 94% (vol)	Pass
Water Determination	USP	NMT 0.5%	0.04 %
Water, wt%	EP/BP	NMT 0.5%	0.04 %
Water, wt/v%	JP	NMT 0.75%	0.04 %
Ag (Silver)	USP<232>	Lot Analysis	0.00 ppm

Test	Mono-graph	Specification	Typical Result
As (Arsenic)	USP<232>	Lot Analysis	0.00 ppm
Au (Gold)	USP<232>	Lot Analysis	0.00 ppm
Ba (Barium)	USP<232>	Lot Analysis	0.00 ppm
Cd (Cadmium)	USP<232>	Lot Analysis	0.00 ppm
Co (Cobalt)	USP<232>	Lot Analysis	0.00 ppm
Cr (Chromium)	USP<232>	Lot Analysis	0.00 ppm
Cu (Copper)	USP<232>	Lot Analysis	0.00 ppm
Hg (Mercury)	USP<232>	Lot Analysis	0.00 ppm
Ir (Iridium)	USP<232>	Lot Analysis	0.00 ppm
Li (Lithium)	USP<232>	Lot Analysis	0.00 ppm
Mo (Molybdenum)	USP<232>	Lot Analysis	0.00 ppm
Ni (Nickel)	USP<232>	Lot Analysis	0.00 ppm
Os (Osmium)	USP<232>	Lot Analysis	0.00 ppm
Pb (Lead)	USP<232>	Lot Analysis	0.00 ppm
Pd (Palladium)	USP<232>	Lot Analysis	0.00 ppm
Pt (Platinum)	USP<232>	Lot Analysis	0.00 ppm
Rh (Rhodium)	USP<232>	Lot Analysis	0.00 ppm
Ru (Ruthenium)	USP<232>	Lot Analysis	0.00 ppm
Sb (Antimony)	USP<232>	Lot Analysis	0.00 ppm
Se (Selenium)	USP<232>	Lot Analysis	0.00 ppm

Test	Mono-graph	Specification	Typical Result
Sn (Tin)	USP<232>	Lot Analysis	0.00 ppm
Tl (Thallium)	USP<232>	Lot Analysis	0.00 ppm
V (Vanadium)	USP<232>	Lot Analysis	0.00 ppm

Certification and Compliance Statements

This product complies with all of the current requirements listed in the United States Pharmacopeia, European Pharmacopeia, British Pharmacopeia, Japanese Pharmacopeia monographs.

This product is not derived, nor does it come in contact with, any materials derived from bovine or other animal sources.

No chemicals whatsoever are used as solvents at any point in the manufacture, processing or packaging of Isopropyl Alcohol. Only Class 2 and Class 3 residual solvents may appear as impurities / related substances / low level contaminants in IPA. Concentration of Class 2 Option 1 and Class 3 residual solvents is below limits in the current USP/NF General Chapter <467> and ICH Q3C Impurities: Residual Solvents.

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