

Certificate of Analysis

Product: Isopropyl Alcohol, 99% Item Number: IPAHPLC Grade: HPLC Lot Number: 220617-B027120 Manufacture Date: 05/27/2022 Expiration Date: 05/26/2027 Country of Origin: United States

Tested Property	Specification	Analysis
Carbonyl Compounds - Acetone	0.002% Max	0.000
Assay (corrected for water)	99.5% Min	99.90%
Color, APHA	10 max	1
Carbonyl Compounds - Propionaldehy	de 0.002% Max	LT 0.002%
Residue after Evaporation	0.001% Max	0.000%
Soluability in Water	To Pass Test	Pass
Titrable Acid or Base	0.0001 meq/g	0.0001 meq/g
Water, wt%	NMT 0.2%	0.04%
UV Absorbance @210nm	1.0 Max.	0.36
UV Absorbance @ 220nm	0.40 Max.	0.17
UV Absorbance @ 230nm	0.20 Max	0.10
UV Absorbance @ 245nm	0.08 Max	0.04
UV Absorbance @ 260nm	0.04 Max	0.02
UV Absorbance @ 275nm	0.03 Max	0.01
UV Absorbance @ 300nm	0.02 Max	0.01
UV Absorbance @330nm	0.01 Max	0.01
Limit of volatile impurities - 2 - Butan	ol NMT 0.1%	LT 0.1%
Limit of volatile Impurities - Acetone	NMT 0.1%	None detected
Acidity	NMT 0.70 ml of 0.020N NaOH is required	0.40ml
Assay (corrected for water)	99.0% Min	99.91%

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Limit of Volatile Impurities - Diethyl Ether	NMT 0.1%	LT 0.1%
Limit of volatile Impurities - Diisopropyl Ether	NMT 0.1%	LT 0.1%
Identification B	To pass Test	Pass
Identification A - Infrared Spectroscopy	To Pass Test	Pass
Identification C - Limit of Methanol	NMT 0.02%	Pass
Limit of volatile Impurities -Individual unspecified NMT 0.1%		LT 0.1%
Limit of volatile Impurities - Methanol	NMT 0.02%	LT 0.02%
Limit of volatile Impurities - n-Propyl Alcohol	NMT 0.1%	LT 0.1%
Limit of Nonvolatile Residue	NMT 2.5mg (0.005%)	0.0mg
Refractive Index @ 20Ã,°C	1.376 - 1.378	1.377
Specific Gravity	0.783 - 0.787 @ 25Ã,°C	0.783
Limit of volatile Impurities - Total	NMT 1.0%	LT 0.1%
Water Determination	NMT 0.5%	0.04%

Isopropyl Alcohol, 99%

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