


PHARMCO
 BY GREENFIELD GLOBAL

CERTIFICATE OF ANALYSIS

Product Name	Isopropyl Alcohol 99%
Grade	ACS/USP/NF Grade
Catalog #	231000099
Item #	100890
Batch #	260211-B154136
Date of Manufacture:	22 Jan 2026
Recommended Retest Date:	21 Jan 2031
Customer PO #	PO5320
Packaging Type	Pail Metal 5 Gal
Quantity for Delivery	25
Packaged by:	Greenfield Global USA Inc., 58 Vale Road, Brookfield, CT 06804

TEST	MONO-GRAPH	SPECIFICATION	RESULT
Assay	USP	NLT 99.0%	99.96 %
Assay (corrected for water)	ACS	99.5% min	99.96 %
Solubility in water	ACS*	To Pass Test	Pass
Color, APHA	ACS	10 max	1
Limit of Nonvolatile Residue	USP*	NMT 2.5 mg (0.005%)	0.0 mg
Residue after Evaporation	ACS*	0.001% max	0.000 %
Specific Gravity	USP	0.783 - 0.787 @25°C	0.783
Identification A - Infrared Spectroscopy	USP	To Pass Test	Pass
Identification B	USP	To Pass Test	Pass
Identification C - Limit of Methanol	USP	NMT 0.02%	Pass
Refractive Index @ 20oC	USP	1.376-1.378	1.377
Acidity	USP*	NMT 0.70 ml of 0.020N NaOH is required	0.30 ml



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Titration Acid or Base	ACS*	0.0001 meq/g max	0.0001 meq/g
Carbonyl Compounds - Propionaldehyde	ACS	0.002% max	None Detected
Carbonyl Compounds - Acetone	ACS	0.002% max	0.001 %
Absorbance @230nm	USP	NMT 0.30	0.10
Absorbance @250nm	USP	NMT 0.10	0.03
Absorbance @270nm	USP	NMT 0.03	0.01
Absorbance @290nm	USP	NMT 0.02	0.01
Absorbance @310nm	USP	NMT 0.01	0.00
Absorbance Curve	USP	The spectrum shows a steadily descending curve with no observable peaks or shoulders.	Pass
Limit of Volatile Impurities - Methanol	USP	NMT 0.02%	LT 0.02%
Limit of Volatile Impurities - Diethyl Ether	USP	NMT 0.1%	None Detected
Limit of Volatile Impurities - Acetone	USP	NMT 0.1%	LT 0.1%
Limit of Volatile Impurities - Diisopropyl Ether	USP	NMT 0.1%	None Detected
Limit of Volatile Impurities - n-Propyl Alcohol	USP	NMT 0.1%	LT 0.1%
Limit of Volatile Impurities - 2-Butanol	USP	NMT 0.1%	None Detected
Limit of Volatile Impurities - Individual unspecified	USP	NMT 0.1%	LT 0.1%
Limit of Volatile Impurities - Total	USP	NMT 1.0%	LT 0.1%
Water, wt%	ACS	NMT 0.2%	0.03 %



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TEST	MONO-GRAPH	SPECIFICATION	RESULT
Water Determination	USP	NMT 0.5%	0.03 %

Certification and Compliance Statements

This lot of Isopropyl Alcohol complies with all of the current requirements listed in the United States Pharmacopeia, American Chemical Society monographs and the National Formulary.

* This test is performed quarterly

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>.

Greenfield products are for further commercial manufacturing, laboratory use, or research. Greenfield is not registered with the United States Food and Drug Administration (FDA) as a drug manufacturing facility. Greenfield products are not registered with the FDA as active pharmaceutical ingredients in drug manufacturing. Appropriate/legal use of all products are the responsibility of the user and subject to applicable local laws and regulations.

This document was electronically signed by John Piskura on 05 Feb 2026 09:56 AM to indicate Quality Assurance Approval and to release this batch.

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