PHARMCO by Greenfield Global

CERTIFICATE OF ANALYSIS

Product Name	Methanol
Grade	ACS/USP/NF/HPLC-UV Grade
Catalog #	33900HPLC
Item #	101183
Batch #	220203-B014582
Date of Manufacture:	02/03/2022
Recommended Retest Date:	02/02/2027
Customer PO #	P19486/2
Packaging Type	Case Poly Fluor 4x1 Gal
Quantity for Delivery	5
Packaged by	Greenfield Global USA Inc, 1101 Isaac Shelby Drive, Shelbyville, KY 40065

TEST	MONO-GRAPH	SPECIFICATION	RESULT	UNITS
Carbonyl Compounds - Acetaldehyde	ACS	0.001% max	LT 0.001%	N/A
Carbonyl Compounds - Acetone	ACS	0.001% max	None Detected	N/A
Appearance	ACS	To Pass Test	Pass	N/A
Assay (corrected for water)	ACS	99.8% min	99.97	%
Color (APHA)	ACS	10 max	1	N/A
Carbonyl Compounds - Formaldehyde	ACS	0.001% max	LT 0.001%	N/A
Residue on Evaporation	ACS	0.001% max	0.001	%
Solubility in Water	ACS	To Pass Test	Pass	N/A
Substances Darkened by Sulfuric Acid	ACS	To Pass Test	Pass	N/A
Substances Reducing Permanganate	ACS	To Pass Test	Pass	N/A
Titrable Acid	ACS	0.0003 meq/g max.	0.0002	meq/g
Titrable Base	ACS	0.0002 meq/g max.	0.0001	meq/g
Water	ACS	NMT 0.1%	0.01	%

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TEST	MONO-GRAPH	SPECIFICATION	RESULT	UNITS
UV Absorption @205nm	ACS	1.00 max.	0.91	N/A
UV Absorption @210nm	ACS	0.80 max.	0.47	N/A
UV Absorption @220nm	ACS	0.40 max.	0.21	N/A
UV Absorption @230nm	ACS	0.20 max.	0.10	N/A
UV Absorption @240nm	ACS	0.10 max.	0.04	N/A
UV Absorption @260nm	ACS	0.04 max.	0.01	N/A
UV Absorption @280nm-400 nm	ACS	0.01 max.	0.00	N/A
Acetone and Aldehydes (as Acetone)	NF	NMT 0.003%	LT 0.003%	N/A
Acidity	NF	NMT 0.45mL 0.020N NaOH required	0.25	ml
Alkalinity (as NH4)	NF	NMT 0.20mL 0.020N H2SO4 required (3 ppm max)	0.10	ml
Assay	NF	NLT 99.5%	99.98	%
Identification A (Infrared Absorption)	NF	To Pass Test	Pass	N/A
Identification B (GC Analysis)	NF	To Pass Test	Pass	N/A
Non -Volatile Residue	NF	NMT 2mg (0.001% w/w)	1	mg
Readily Carbonizable Substances	NF	To Pass Test	Pass	N/A
Readily Oxidizable Substances	NF	To Pass Test	Pass	N/A
Water	NF	NMT 0.1%	0.01	%

Certification and Compliance Statements

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

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This product is manufactured for Routine HPLC Analysis and meets the requirements for General Use HPLC Grade, ACS Monographs. This product is not intended for GC or critical HPLC analysis. See Distilled Grade for those applications.

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

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

This product is for further commercial manufacturing, laboratory or research use, and may be used as a process solvent for pharmaceutical purposes. It is not intended for use as an active ingredient in drug manufacturing nor as a medical device or disinfectant. Appropriate/legal use of this product is the responsibility of the user.

This document was electronically signed by Natalie Engelbrecht on 2/11/2022 9:36:51 AM to indicate Quality Assurance Approval and to release this batch.