

CERTIFICATE OF ANALYSIS

Product Name METHANOL
Grade Meets ACS/USP/NF Grade Monographs
Catalog # 339000000, zp339000000
Lot # K20L15K10
Date of Manufacture: 12/15/20
Recommended Retest Date: Five Years from Date of Manufacture
Manufactured by Mitsubishi: Salalah Methanol Company P.C 217, Al Awaqdain Salalah, Sultanate of Oman
Packaged by Greenfield Global USA Inc. 1101 Isaac Shelby Drive, Shelbyville KY 40065
Country of Origin Oman
Date of Revision: 12/17/2020

TEST	MONO GRAPH	SPECIFICATION	RESULT
Assay (corrected for water)	ACS	99.8% min	99.96%
Assay	NF	NLT 99.5%	99.96%
Appearance	ACS+	To Pass Test	Pass
Identification A (Infrared Absorption)	NF	To Pass Test	Pass
Identification B (GC Analysis)	NF	To Pass Test	Pass
Acidity	NF ⁺	NMT 0.45mL 0.020N NaOH required	0.20 mL
Alkalinity (as NH ₄)	NF ⁺	NMT 0.20mL 0.020N H ₂ SO ₄ required (3 ppm max)	0.05 mL
Titration Acid	ACS ⁺	0.0003 meq/g max.	0.0002 meq/g
Titration Base	ACS ⁺	0.0002 meq/g max.	< 0.0001 meq/g
Readily Carbonizable Substances	NF ⁺	To Pass Test	Pass
Carbonyl Compounds	ACS	Acetone 0.001% max	< 0.001%
		Formaldehyde 0.001% max	< 0.001%
		Acetaldehyde 0.001% max	< 0.001%
Acetone and Aldehydes (as Acetone)	NF ⁺	NMT 0.003%	< 0.003%
Readily Oxidizable Substances	NF ⁺	To Pass Test	Pass
Non -Volatile Residue	NF ⁺	NMT 2mg (0.001% w/w)	0 mg
Residue on Evaporation	ACS ⁺	0.001% max	0.000%
Substances Reducing Permanganate	ACS ⁺	To Pass Test	Pass
Substances Darkened by Sulfuric Acid	ACS ⁺	To Pass Test	Pass
Solubility in Water	ACS ⁺	To Pass Test	Pass
Color (APHA)	ACS	10 max	< 1
Water	ACS/NF	NMT 0.1%	<0.01%

* This test is performed quarterly

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

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 an excipient or 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.

Approved by: A. Rice, Lab Technician

Date of Approval: 12/16/20

Ashley N. Rice