Methanol

World Grade ®

Grade: ACS/USP/NF/EP/BP **Catalog number:** 339WORLD

Test	Mono-graph	Specification	Typical Result
Assay (corrected for water)	ACS	99.8% min	99.97 %
Assay	NF	NLT 99.5%	100.00 %
Substances Darkened by Sulfuric Acid	ACS	To Pass Test	Pass
Readily Oxidizable Substances	NF	To Pass Test	Pass
Substances Reducing Permanganate	ACS	To Pass Test	Pass
Readily Carbonizable Substances	NF	To Pass Test	Pass
Reducing Substances	EP/BP	To Pass Test	Pass
Solubility in Water	ACS	To Pass Test	Pass
Color (APHA)	ACS	10 max	1
Water	ACS	NMT 0.1%	0.02 %
Water	NF	NMT 0.1%	0.02 %
Water	EP/BP	NMT 0.10%	0.02 %
Residue on Evaporation	ACS	0.001% max	0.000 %
Non -Volatile Residue	NF	NMT 2mg (0.001% w/w)	0 mg
Residue on Evaporation	EP/BP	NMT 10ppm	0 ppm
Carbonyl Compounds - Acetone	ACS	0.001% max	None Detected
Acetone and Aldehydes (as Acetone)	NF	NMT 0.003%	LT 0.003%

Test	Mono-graph	Specification	Typical Result
Impurity C - Acetone	EP/BP	Lot Analysis	None Detected
Carbonyl Compounds - Formaldehyde	ACS	0.001% max	LT 0.001%
Carbonyl Compounds - Acetaldehyde	ACS	0.001% max	LT 0.001%
Titrable Acid	ACS	0.0003 meq/g max.	0.0002 meq/g
Acidity	NF	NMT 0.45mL 0.020N NaOH required	0.10 ml
Titrable Base	ACS	0.0002 meq/g max.	0.0001 meq/g
Alkalinity (as ammonia)	NF	NMT 0.20mL 0.020N H2SO4 required (3 ppm max)	0.05 ml
Acidity or alkalinity	EP/BP	NMT 0.90mL 0.01M NaOH required	0.40 ml
Identification A (Infrared Absorption)	NF	To Pass Test	Pass
Identification B (Infrared Absorption)	EP/BP	To Pass Test	Pass
Identification B (GC Analysis)	NF	To Pass Test	Pass
Identification A (Refractive Index)	EP/BP	1.328-1.330 @20°C	1.329
Appearance	EP/BP	It is clear and colorless	Pass
Characters	EP/BP	Appearance: clear, colourless, volatile, hygroscopic liquid. Solubility: miscible with water and with methylene chloride. bp: about 64 °C. It is flammable.	Pass
Relative Density	EP/BP	0.791 – 0.793@20°C	0.791
Impurity A - Benzene	EP/BP	NMT 2 ppm	0 ppm
Impurity B - Ethanol	EP/BP	Lot Analysis	18 ppm
Related Substances - Any Impurity	EP/BP	NMT 0.1%	LT 0.01%
Related Substances - Total Impurities	EP/BP	NMT 0.3%	LT 0.01%

Test	Mono-graph	Specification	Typical Result
Absorbance @ 230nm	EP/BP	0.15 max.	0.11
Absorbance @ 250nm	EP/BP	0.05 max.	0.02
Absorbance @ 270nm	EP/BP	0.02 max.	0.00
Absorbance @ 290nm	EP/BP	0.01 max.	0.00
Absorbance	EP/BP	Absorption curve between 230nm – 290nm is smooth	Pass
Ag (Silver)	USP<232>	Lot Analysis	0.00 ppm
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

Test	Mono-graph	Specification	Typical Result
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
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 is tested to meet specifications listed in the United States Pharmacopeia, National Formulary, European Pharmacopeia, British Pharmacopeia, and American Chemical Society 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 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> and ICH Q3C Impurities: Residual Solvents.

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