



Certificate of Analysis

Ethanol, 190 Proof

CAS# 64-17-5/EC# 200-578-6

Meets USP Spec Monograph

Grain Derived Ethanol

Batch **12032024190**

Lot number: 12202024190

Manufacture date: 12/20/2024

Quality Parameter	Method	Limit	Result
Acidity; $\mu\text{L/L}$	USP	Max 30	PASS
Acetaldehyde + Acetal; $\mu\text{L/L}$	GC - USP 41	Max 10	5
Methanol; $\mu\text{L/L}$	GC - USP 41	Max 200	0
Benzene; $\mu\text{L/L}$	GC - USP 41	Max 1	0
Sum of All Other Impurities; $\mu\text{L/L}$	GC - USP 41	Max 300	29
UV-Vis Absorbance at 240nm; Abs	USP UV-Vis	Max 0.4	0.05
UV-Vis Absorbance at 250-260nm; Abs	USP UV-Vis	Max 0.3	0
UV-Vis Absorbance at 270-340nm; Abs	USP UV-Vis	Max 0.1	0
Infrared Spectroscopy	UPS	Pass	Pass
Color of Solution	USP	Colorless	Colorless
Clarity of Solution	USP	Clear	Clear
Non-Volatile Residue; mg/100ml	USP	Max 2.5	<2.5
Specific Gravity at 15.56C;	USP	0.812 - 0.816	0.8149
Proof at 15.56C;	USP	N/A	190.6

1 ND is <1 $\mu\text{L/L}$ or <1 PPM

2 Pass or IR Scan means that samples is greater than a 99.0% match to USP Reference Standard IR Scan

Properties, where stated, are to be considered as representative of current batch and should not be treated as specifications.

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