PRODUCT SPECIFICATIONS SHEET

Product Name	Ethyl Alcohol 96% (192 Proof) Grain
Grade	USP/EP/BP Grade
Catalog #	1110000EP192

TEST	MONO-GRAPH	SPECIFICATION	TYPICAL RESULT
Assay (by relative density @20°C)	EP/BP	95.1% - 96.9% (by volume)	96.01 %
Proof	27CFR 30.23	Lot Analysis	192.0
Characters / Solubility	EP/BP	Appearance: colourless, clear, volatile, flammable liquid, hygroscopic. Solubility: miscible with water and with methylene chloride. It burns with a blue, smokeless flame. BP: about 78°C	Pass
Identification A - Relative Density	EP/BP	0.805 – 0.812 @ 20°C	0.8087
Identification Test B (Infrared Spectroscopy)	USP	Conforms to IR Spectra	Pass
Identification Test B (Infrared Spectroscopy)	EP/BP	Conforms to IR Spectra	Pass
Identification Test C (Limit of Methanol)	USP	NMT 200 µL/L (200ppm) of Methanol	Pass
Identification Test C	EP/BP	An intense blue color appears on the paper and becomes paler after 10-15 minutes	Pass
Identification Test D	EP/BP	A yellow precipitate is formed within 30 minutes	Pass
Color of Solution	USP	The Sample solution has the appearance of water or is not more intensely colored than the Standard solution	Pass
Clarity of Solution	USP	Sample solution A and Sample solution B show the same clarity as that of water, or their opalescence is not more	Pass

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		pronounced than that of the Standard suspension A.	
Appearance	EP/BP	Clear and Colorless, the dilution remains clear when compared with water	Pass
Acidity or Alkalinity	USP	The solution is pink (30µg/g, expressed as acetic acid)	Pass
Acidity or Alkalinity	EP/BP	The solution is pink (30ppm, expressed as acetic acid)	Pass
Limit of Nonvolatile Residue	USP	NMT 2.5 mg	0.0 mg
Residue on Evaporation	EP/BP	25 ppm, max	0 ppm
UV Absorbance	USP	NMT 0.40 at 240 nm	0.27
UV Absorbance	EP/BP	maximum 0.40 at 240 nm	0.27
UV Absorbance	USP	NMT 0.30 between 250 and 260 nm	0.11
UV Absorbance	EP/BP	maximum 0.30 between 250 nm and 260 nm	0.11
UV Absorbance	USP	NMT 0.10 between 270 and 340 nm	0.02
UV Absorbance	EP/BP	maximum 0.10 between 270 nm and 340 nm	0.02
UV Absorbance	USP	The spectrum shows a steadily descending curve with no observable peaks or shoulders	Pass
UV Absorbance	EP/BP	The spectrum shows a steadily descending curve with no observable peaks or shoulders	Pass
Organic Impurities - Methanol	USP	NMT 200µL/L	2 µL/L
Volatile Impurities - Methanol	EP/BP	NMT 200 ppm V/V	2 ppm
Organic Impurities - Acetaldehyde and Acetal	USP	NMT 10µL/L, expressed as acetaldehyde	0 µL/L

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Volatile Impurities - Acetaldehyde and Acetal	EP/BP	10 ppm V/V max. expressed as acetaldehyde	0 ppm
Organic Impurities - Benzene	USP	NMT 2µL/L	0 µL/L
Volatile Impurities - Benzene	EP/BP	2ppm V/V max.	0 ppm
Organic Impurities - Sum of all other impurities	USP	NMT 300µL/L	4 µL/L
Volatile Impurities - Sum of all other impurities	EP/BP	NMT 300 ppm	4 ppm
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
Pd (Palladium)	USP<232>	Lot Analysis	0.00 ppm
Pt (Platinum)	USP<232>	Lot Analysis	0.00 ppm

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TEST	MONO-GRAPH	SPECIFICATION	TYPICAL RESULT
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 complies with all of the current requirements listed in the United States Pharmacopeia, European Pharmacopeia and British Pharmacopeia 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 Ethyl Alcohol 96% (192 Proof). Only Class 2 and Class 3 residual solvents may appear as impurities / related substances / low level contaminants in Ethanol. 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.

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.