PRODUCT SPECIFICATION SHEET

Product Name	ETHYL ALCOHOL 96% (192 Proof)
Grade	Meets USP/EP/BP/JP GRADE Monographs
Catalog #	1113961
Date	16 July 2022
Manufactured by:	Greenfield Global, Mountrath Road, R32 PXV6 Portlaoise, Ireland
Tested, Packaged and Released:	Greenfield Global, Mountrath Road, R32 PXV6 Portlaoise, Ireland
Country of Origin	Ireland

TEST	MONO GRAPH	SPECIFICATION
Assay (by relative density @20°C)	EP/BP	95.1%-96.9% (V/V)
Assay (by specific gravity@15°C)	JP	95.1%-96.9% (V/V)
Assay (by relative density @15.56°C)	USP	94.9%-96.0% (V/V)
Identification A	USP	It meets requirements of the test for Specific Gravity <841>
Identification A	EP/BP	0.805 to 0.812
Identification B	USP	It compares to the reference spectrum of ethanol (96%)
Identification B	EP/BP	It compares to the reference spectrum of ethanol (96%)
Identification	JP	Both spectra exhibit similar intensities of absorption at the same wavelength
Identification C	USP	Methanol NMT 200 µL/L
Identification C	EP/BP	After a few minutes, an intense blue colour appears on the paper and becomes paler after 10-15min.
Identification D	EP/BP	A yellow precipitate is formed after 30min.
Limit of Nonvolatile Residue	USP	NMT 2.5 mg
Residue on Evaporation	EP/BP	Max. 25 ppm
Purity 5 – Residue on Evaporation	JP	NMT 2.5 mg
Organic Impurities	USP	Methanol NMT 200 µL/L
		Acetaldehyde and Acetal NMT 10 µL/L
		Benzene NMT 2 µL/L
		Sum of all other impurities NMT 300µL/L
Volatile Impurities	EP/BP	Methanol NMT 200 ppm v/v
		Acetaldehyde and Acetal NMT 10 ppm v/v
		Benzene NMT 2ppm v/v
		Total of other impurities NMT 300ppm
Purity 3 – Volatile Impurities	JP	Acetaldehyde and Acetal NMT 10 ppm vol
		Benzene NMT 2ppm vol

TEST	MONO GRAPH	SPECIFICATION
Specific Gravity @ 15.56°C	USP	0.812–0.816
Relative density @20°C	BP/EP	0.805-0.812
Specific Gravity @ 15°C	JP	$d^{15/15}$: 0.80872-0.81601
UV Absorbance	USP	240nm NMT 0.40 250nm-260nm NMT 0.30 270nm-340nm NMT 0.10 Spectrum : The spectrum shows a steadily descending curve with no observable peaks or shoulders
Absorbance	USP	240nm Max 0.40 250nm-260nm Max 0.30 270nm-340nm Max 0.10 Spectrum : The spectrum shows a steadily descending curve with no observable peaks or shoulders
Purity 4 - Other Impurities (absorbance)	JP	240nm NMT 0.40 250nm-260nm NMT 0.30 270nm-340nm NMT 0.10 Spectrum : The spectrum shows a steadily descending curve with no observable peaks or shoulders
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 pronounced than that of Standard Solution.
Purity 1 – Clarity and Color of Solution	JP	The resulting liquid is clear.
Acidity or Alkalinity	USP	The solution is pink (30 µL/L, expressed as acetic acid)
Acidity or Alkalinity	EP/BP	The solution is pink (30 ppm, expressed as acetic acid)
Purity 2 – Acidity or alkalinity	JP	A pink colour develops
Color of Solution	USP	The sample solution has the appearance of water or is no more intensely coloured than the Standard solution.
Appearance	EP/BP	The solution remains clear when compared to water R.

Certification and Compliance Statements:
Compendial Standards: This product complies with all the current requirements listed in the United States Pharmacopeia (USP), the European Pharmacopeia (EP/BP) and Japanese Pharmacopeia (JP).
GMP compliance: This product is processed and packaged in compliance with excipient Good Manufacturing Practices.
Other Certification Statements are available in our Excipient Information Package (EIP) which is available on request.
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.