

## Quality Department - Product Specification

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ETHYL ALCOHOL 95% USP
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Measure Description	Method Description	Specification
Density (in air), Kg/L, at 20°C	Methods specified in the Revenue Canada Customs & Excise Alcoholometric Tables	0.8097 to 0.8103
Ethyl Alcohol Content, v/v%	Methods specified in the Revenue Canada Customs & Excise Alcoholometric Tables	94.90 to 95.15
IDENTIFICATION A - Specific Gravity at 15.56°C	Current USP	0.812 to 0.816
IDENTIFICATION B - Infrared Absorption	Current USP	Conforms to standard
Acidity or Alkalinity	Current USP	1mL of 0.01N NaOH in 20mL sample produces pink colour
Nonvolatile Residue, g/100mL	Current USP	NMT 0.0025
Clarity of Solution	Current 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 Suspension A
Colour of Solution	Current USP	The Sample Solution has the appearance of water and is not more intensely coloured than the Standard Solution
UV Absorbance - Spectrometer at 240nm	Current USP	NMT 0.40
UV Absorbance - Spectrometer at 250nm	Current USP	NMT 0.30
UV Absorbance - Spectrometer at 260nm	Current USP	NMT 0.30
UV Absorbance - Spectrometer at 270nm	Current USP	NMT 0.10
UV Absorbance - Spectrometer at 340nm	Current USP	NMT 0.10
UV Absorbance - Smoothness of UV Curve	Measured in a 5cm cell from 235nm to 340nm	The spectrum shows a steadily descending curve with no observable peaks or shoulders
GC - Acetaldehyde + Acetal, ppm (µL/L)	GC Analysis	NMT 10
GC - Methanol, ppm (µL/L)	GC Analysis	NMT 75
Identification Test C (Limit of Methanol)	Current USP	NMT 200µL/L (200ppm) of methanol
GC - Benzene, ppm (µL/L)	GC Analysis	NMT 2
GC - Sum of All Impurities, ppm (µL/L)	GC Analysis	NMT 300

### Comments:

Ethyl alcohol 95% conforms to all US, British, European, and Japanese Pharmacopoeia, and Food Chemicals Codex standards, with the exception of alcohol strength, specific gravity, and density in the BP, EP, and JP. The specific gravity and density values in these references correspond to an alcohol strength of 96.0 to 96.6% in the BP, 95.1 to 96.9% in the EP, and 95.1 to 95.6% in the JP, therefore ethyl alcohol 95% will not conform to these standards by virtue of its lower minimum alcohol strength.

### Specification:

QCSPEC #: QSPEC000086, Version #: QV0000001, Approver: SHANNON.SMITH, Effective Date: 01-Sep-2020