



Commercial Alcohols

The Industrial & Beverage Alcohol Division of GreenField Ethanol Inc.

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Quality Assurance Department CERTIFICATE OF ANALYSIS

ETHYL ALCOHOL ANHYDROUS USP / EP / BP / JP		Location shipped from: Brampton, ON	
Lot #:	14905		
Bond #:	125-04-13N		
Item #:	P210EAAN		
Test	Units	Method	Specification
Ethyl alcohol, % by volume		Calculation	99.5% min.
Density, Kg/L at 20 C		Methods specified in the Revenue Canada Customs & Excise Alcoholometric Tables	0.7885 max.
IDENTIFICATION A- Specific gravity, at 15.56 / 15.56 C		Calculation from density per USP monograph	0.7962 max.
IDENTIFICATION A- Relative density, at 20 / 20 C		Calculation from density per EP monograph	0.790 to 0.793
IDENTIFICATION B- Infrared absorption		Current USP	Conforms to Standard
Acidity		Current USP	1 ml of 0.01 N NaOH in 20 ml sample produces pink color.
Nonvolatile residue, mg / 100mL		Current USP	2.5 max.
Clarity of solution T.S. A- full strength T.S. B- 1 ml sample to 20 ml water		Current USP	Clarity for both T.S. A and B is same as for water, opalescence not more than ref. suspension A
Color of solution		Current USP	Test solution has the appearance of water and is not more intensely colored than the Standard Solution.
ULTRAVIOLET ABSORBANCE			
Measured in instrument equipped with 5 cm cell from 200 - 400nm.		Spectrometer @ 240 nm	0.40 a max.
		Spectrometer @ 250-260 nm	0.30 a max.
		Spectrometer @ 270-340 nm	0.10 a max.
			The absorption curve from 235 - 340nm is smooth
GAS CHROMATOGRAPHY			
Methanol		GC Analysis	75 ppm max.
Acetaldehyde plus acetal		GC Analysis	10 ppm max.
Benzene		GC Analysis	2 ppm max.
Sum of all other areas		GC Analysis	300 ppm max.
Water content, v/v%		Karl Fischer Titration	0.1 max.
Remarks:	Type of Packaging		Expiration Date (MMM/YYYY)
	Glass		
	HDPE		
X Unlined carbon steel			Apr/2015
Workbook Reference:	23041302	Disposition:	Released X
Analyst(s):	S.S.		Rejected
Form prepared by: J.O.		Approved by: RS	
Effective Date: May 20, 2011		Supersedes: July 29, 2010	
Revision #: 12		Release Date: 25-Apr-13	
		Q.A. <i>Jonathan Okopny</i> J. Okopny	