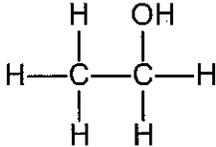


# Certificate of Analysis

## Ethanol-80

*Ethyl alcohol*

<b>Catalog Number:</b>	E-037	
<b>Solution Lot:</b>	FN082605-01	
<b>Expiration Date:</b>	August 2008	
<b>Solvent:</b>	Water	
<b>Amount per Ampule:</b>	5 mL	
<b>Storage:</b>	Protect from light, refrigerate.	
<b>Handling:</b>	We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.	
<b>Intended Use:</b>	For laboratory use only. This product is a quantitative standard useful for calibration, quality control, and other general applications requiring accurate solutions.	

<u>Component</u>	<u>Purity<sup>1</sup></u>	<u>Concentration<sup>2</sup></u>
Ethanol	99%	80.00 ± 2.48 mg/dL

<sup>1</sup> Chemical purity was determined by chromatographic analysis. See following pages for more information.

<sup>2</sup> The range of the prepared concentration is determined by statistical process control of our production and analysis systems with a 95% confidence.

Cerilliant certifies that this standard meets or exceeds the specifications stated in this data sheet. Accuracy is ensured by exhaustive purity determinations and gravimetric preparation using balances calibrated with NIST traceable weights. Precision is guaranteed by triplicate analysis and comparison to previous lots (when available). Finally, homogeneity is demonstrated by random analysis of the ampuled standard.

Authorized Signature:



Lara Sparks, Quality Assurance Director

September 9, 2005

Date

**Standard Solution Comparability**

Standard Solution	Lot Number	Concentration <sup>3</sup> (mg/dL)	% Difference from Target
New Lot	FN082605-01	80.70	0.9
Previous Lot	FN071904-01	80.60	-0.4

**Standard Solution Homogeneity**

Ampuling Position	Concentration <sup>3</sup> (mg/dL)	Mean	% RSD
Early	81.10	80.70	0.5
Middle	80.60		
Late	80.30		

<sup>3</sup> Concentration values are determined by comparison to an independent calibration curve. We suggest using the prepared concentration value for dilutions. The concentration range is calculated from the distribution of multiple analyses of the new standard with a 95% degree of confidence.

**Standard Solution Assay Parameters**

**Analysis Method:** GC/FID  
**Column:** DB-ALC 30 m x 0.53 mm ID, 3.0 µm film thickness  
**Temp Program:** 40°C Isothermal for 12 min  
**Injector Temp:** 200°C  
**Detector Temp:** 250°C

**Calibration Curve:** Linear Regression  
**Number of Points:** 4  
**Linearity (r<sup>2</sup>):** 0.999

*Each point analyzed in triplicate*

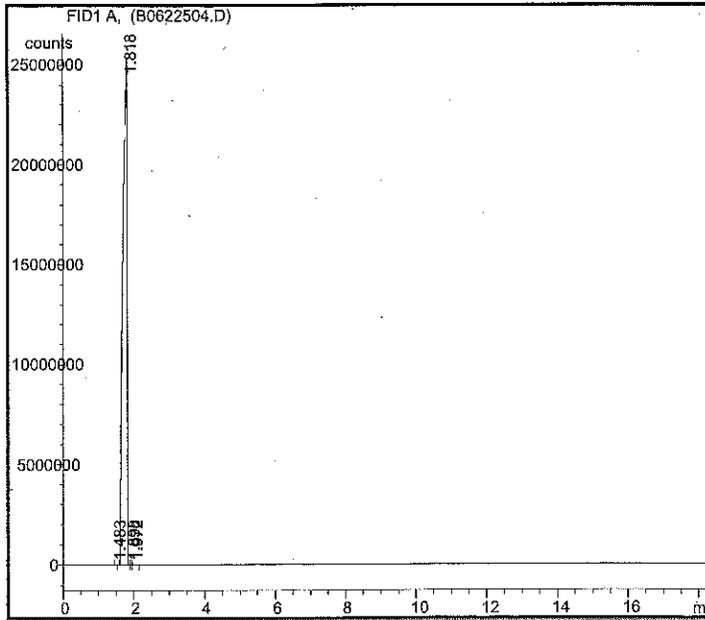
**Neat Material Data**

**Compound Name:** Ethanol  
**Compound Lot:** EB-2084  
**Chemical Purity:** 99%

**Chemical Formula:** C<sub>2</sub>H<sub>6</sub>O  
**CAS Number:** 64-17-5  
**Molecular Weight:** 46.07

**Spectral and Physical Data**

**GC/FID**



**Column:** DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness  
**Temp Program:** 35°C to 260°C at 20°C/min (Hold 2 min)  
**Injector Temp:** Cool-on column  
**Detector Temp:** 325°C  
**Data File Name:** C:\HPCHEM\2\DATA\B0622504.D  
**Operator:** ACB  
**Instrument:** GC#2  
**Sample Name:** EB-2084  
**Method File:** AM1046.M  
**Acquired:** June 22, 2005 1:23 PM

Peak #	Ret Time	Area	Height	Area %
1	1.48	731	417	0.00
2	1.82	202140000	25316700	100.00
3	1.90	3473	1343	0.00
4	1.97	5203	2360	0.00