

## ALCOHOL ANALYSIS QC SUMMARY

Report Date	9/30/13
Reviewer	Brett Kirkland

RUN SUMMARY DATA				Ethanol			n-Propanol	
Run Date	Channel	Sample	Lot	RT	Area	Conc.	RT	Area
9/30/2013	A	Vols Mix	041513DKR	0.708	20.55712	0.0440	1.202	324.83679
9/30/2013	A	Blank			0.00000	0.0000	1.202	320.60156
9/30/2013	A	CER 025	FN032210-01	0.708	12.82199	0.0257	1.202	320.12909
9/30/2013	A	CER 100	FN050312-01	0.708	47.02723	0.1033	1.202	307.96762
9/30/2013	A	CER 200	FN032712-01	0.708	97.40481	0.2081	1.202	320.13913
9/30/2013	A	CER 400	FN012712-01	0.708	196.61725	0.4001	1.202	323.75629
9/30/2013	A	RES 50	A092903	0.708	25.89252	0.0526	1.202	318.10339
9/30/2013	A	1071	201308G	0.708	29.71155	0.0600	1.202	321.10678
9/30/2013	A	0646	201308G	0.708	30.22810	0.0607	1.202	322.70599
9/30/2013	A	0613	201308G	0.708	30.23177	0.0605	1.202	323.73837
9/30/2013	A	0651	201308G	0.708	29.74851	0.0605	1.202	318.71872
9/30/2013	A	0658	201308G	0.708	29.95983	0.0605	1.202	321.17795
9/30/2013	A	0650	201308G	0.708	29.99769	0.0606	1.202	320.94101
9/30/2013	A	1039	201308G	0.708	29.30009	0.0614	1.202	309.23227
9/30/2013	A	1043	201308G	0.708	29.93804	0.0605	1.202	320.77594
9/30/2013	A	1290	201308G	0.708	29.80080	0.0606	1.202	318.99258
9/30/2013	A	1066	201308G	0.708	30.28270	0.0607	1.202	323.26987
9/30/2013	A	RES 100	A077455	0.708	48.76263	0.0999	1.202	318.93396
9/30/2013	A	1071	201308G	0.708	29.87897	0.0603	1.202	321.13345
9/30/2013	A	0646	201308G	0.708	29.91308	0.0603	1.202	321.50470
9/30/2013	A	0613	201308G	0.708	29.71874	0.0604	1.202	318.70187
9/30/2013	A	0651	201308G	0.708	30.12608	0.0604	1.202	323.30145
9/30/2013	A	0658	201308G	0.708	30.24440	0.0605	1.202	323.96109
9/30/2013	A	0650	201308G	0.708	29.94458	0.0606	1.202	320.27969
9/30/2013	A	1039	201308G	0.708	29.01219	0.0608	1.202	309.24640
9/30/2013	A	1043	201308G	0.708	29.82256	0.0604	1.202	319.88184
9/30/2013	A	1290	201308G	0.708	30.39096	0.0605	1.202	325.76831
9/30/2013	A	1066	201308G	0.708	30.04127	0.0605	1.202	322.08685
9/30/2013	A	RES 300	A078448	0.708	139.85805	0.2972	1.202	309.74207

Amended 11/19/15 BK  
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 BOM

Summary		Standard	g/dL	Ratio	Calc.	Diff
		Blank	0.000	0.00000	0.00000	0.00000
Slope	1.5134	CER 025	0.025	0.04005	0.02529	0.00029
Intercept	0.0018	CER 100	0.100	0.15270	0.09973	-0.00027
Standard Error	0.000465083	CER 200	0.200	0.30426	0.19987	-0.00013
R-Squared	1.0000	CER 400	0.400	0.60730	0.40012	0.00012

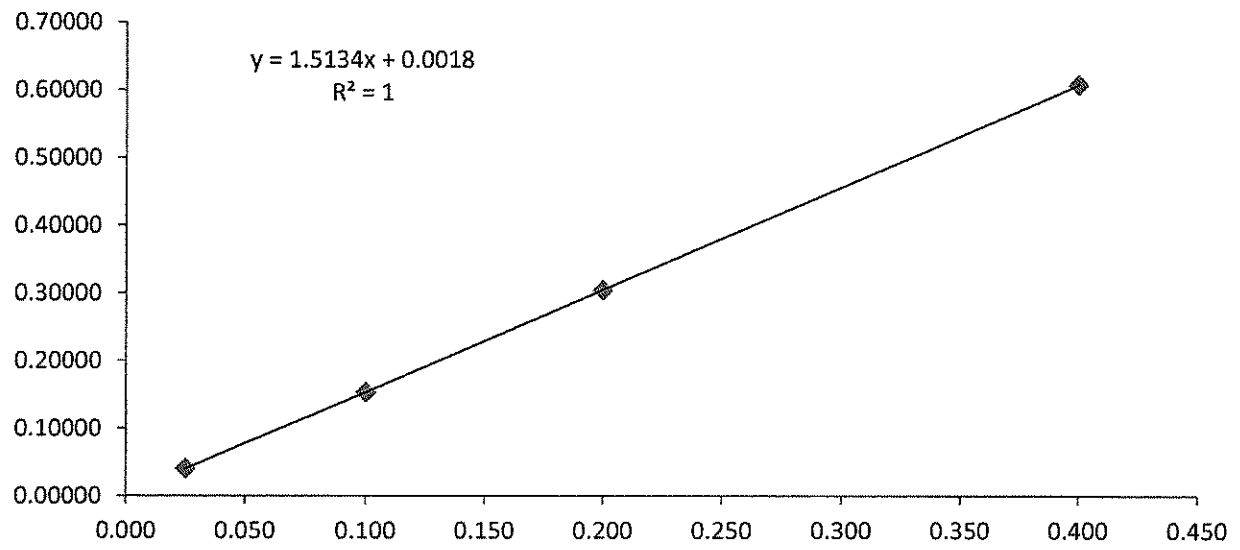
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9/30/2013	A	RES 50	A092903	0.708	25.89252	0.0526	1.202	318.10339
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9/30/2013	A	1290	201308G	0.708	29.80080	0.0606	1.202	318.99258
9/30/2013	A	1066	201308G	0.708	30.28270	0.0607	1.202	323.26987
9/30/2013	A	RES 100	A077455	0.708	48.76263	0.0999	1.202	318.93396
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9/30/2013	A	0646	201308G	0.708	29.91308	0.0603	1.202	321.50470
9/30/2013	A	0613	201308G	0.708	29.71874	0.0604	1.202	318.70187
9/30/2013	A	0651	201308G	0.708	30.12608	0.0604	1.202	323.30145
9/30/2013	A	0658	201308G	0.708	30.24440	0.0605	1.202	323.96109
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9/30/2013	A	1066	201308G	0.708	30.04127	0.0605	1.202	322.08685
9/30/2013	A	RES 300	A078448	0.708	139.85805	0.2972	1.202	309.74207

Summary		Standard	g/dL	Ratio	Calc.	Diff
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Intercept	0.0018	CER 100	0.100	0.15270	0.09973	-0.00027
Standard Error	0.000465083	CER 200	0.200	0.30426	0.19987	-0.00013
R-Squared	1.0000	CER 400	0.400	0.60730	0.40012	0.00012

### Analytical Curve



Source:	Alcohol Countermeasure Systems, Inc.
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Lot:	201308G
Level:	0.05 g/210L
Manufacture Date:	08/27/2013
Expiration Date:	08/27/2015

Bottle	Result (g/100mL)
1071	0.0600
	0.0603
0646	0.0607
	0.0603
0613	0.0605
	0.0604
0651	0.0605
	0.0604
0658	0.0605
	0.0605
0650	0.0606
	0.0606
1039	0.0614
	0.0608
1043	0.0605
	0.0604
1290	0.0606
	0.0605
1066	0.0607
	0.0605

MEAN	0.0605
STD DEV	0.0003
MIN	0.0600
MAX	0.0614

### Loadlist - Alcohol Reference Solution Verification

Location	Sample
4	Volatiles Mixture
5	Blank
6	Cerilliant 025
7	Cerilliant 100
8	Cerilliant 200
9	Cerilliant 400
10	Restek 50
11	1071
12	0646
13	0613
14	0651
15	0658
16	0650
17	1039
18	1043
19	1290
20	1066
21	Restek 100
22	1071
23	0646
24	0613
25	0651
26	0658
27	0650
28	1039
29	1043
30	1290
31	1066
32	Restek 300
33	1446
34	1445
35	1444
36	1441
37	1442
38	1443
39	1450
40	1447
41	1451
42	1449
43	Restek 100
44	1446
45	1445
46	1444
47	1441

#### Instrument Parameters

Sample Temp	60	C	✓
Loop Temp	125	C	✓
Transfer Temp	150	C	✓
Shaking	High		✓
Thermostat Time	9	Minutes	✓
Presurization Time	0.02	Minutes	✓
Loop Fill Time	0.1	Minutes	✓
Loop Equilibration Time	0.05	Minutes	✓
Cycle Time	4.5	Minutes	✓
Carrier Pressure	35	psi	✓
Inlet Temp	250	C	✓
Inlet Pressure	35	psi	✓
Split Ratio	5:1		✓
Column Oven Temp	35	C	✓
Run Time	3	Minutes	✓
FID Temps	250	C	✓
Hydrogen Flow	40	mL/min	✓
Air Flow	400	mL/min	✓
Nitrogen Flow	30	mL/min	✓

#### Reagents, Calibrators and Controls

Materials	Lot	Exp. Date
Internal Standard	041513DKR	N/A
Volatiles Mixture	041513DKR	N/A
Cerilliant 025	FN032210-01	Apr-15
Cerilliant 100	FN050312-01	May-17
Cerilliant 200	FN032712-01	Mar-17
Cerilliant 400	FN012712-01	Jan-17
Restek 50	A092903	May-17
Restek 100	A092464	Apr-17
Restek 300	A094444	Aug-17

#### Reference Solution

Level Tested: 0.05 g/210L & 0.08g/210L

Lot Number: 201308G & 201308H

Manufacture Date:

Expiration Date:

Operator: DM

Date: 9/30/2013

Location	Sample
48	1443
49	1450
50	1447
51	1451
52	1449
53	Restek 300

DM