Supplemental Data Package

DNPH Cartridge Spike Recovery Study
EPA Method TO-11A

April 10, 2014

Prepared by:

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Spike Recovery from DNPH Cartridge

Date: 04/10/14

Calculated Against Initial Calibration 11/13/13

Calibration Curve Standard: ST61202

Compound	Actual UG/ML	Cartridge 1 QC04104C UG/ML	Cartridge 1 QC04104D UG/ML	Average UG/ML	Recovery %	Cartridge 2 QC04104E UG/ML	Cartridge 2 QC04104F UG/ML	Average UG/ML	Recovery %
Formaldehyde	0.6	0.67	0.70	0.69	114	0.68	0.66	0.67	112
Acetaldehyde	0.6	0.59	0.61	0.60	100	0.59	0.59	0.59	99
Acetone	0.6	0.53	0.55	0.54	90	0.52	0.53	0.53	88
Propionaldehyde	0.6	0.43	0.43	0.43	72	0.46	0.48	0.47	78
Methylethylketone	0.6	0.00	0.00	0.00	0	0.00	0.00	0.00	0
Crotonaldehyde	0.6	0.62	0.64	0.63	105	0.60	0.62	0.61	102
Butyraldehyde	0.6	0.66	0.70	0.68	113	0.71	0.73	0.72	120
Benzaldehyde	0.6	0.61	0.64	0.63	104	0.62	0.61	0.62	103
Isovaleraldehyde	0.6	0.68	0.70	0.69	115	0.69	0.68	0.68	114
Valeraldehyde	0.6	0.62	0.64	0.63	105	0.63	0.62	0.63	104
o-Tolualdehyde	0.6	0.70	0.72	0.71	119	0.74	0.70	0.72	120
m-Tolualdehyde	0.6	0.62	0.66	0.64	106	0.61	0.63	0.62	103
p-Tolualdehyde	0.6	0.57	0.58	0.57	96	0.57	0.55	0.56	93
Hexaldehyde	0.6	0.65	0.71	0.68	113	0.65	0.68	0.66	111

Cartridge 1: Spiked with 160 ul of ST61257 (15 ug/ml) extracted into 4.0 ml to give 0.60 ug/ml
Cartridge 2: Spiked with 160 ul of ST61257 (15 ug/ml) extracted into 4.0 ml to give 0.60 ug/ml

Concentrations were determined by measuring against the initial calibration curve used for the project.

Comments

The following data package goes with the Cartridge Spike Study. The Spike Study uses the ug/ml concentration from each sample, which does not appear in the Analytical Reports. The ug/ml concentration is obtained from the Calculations Sheet in the Data Package under the column, RAW ug/ml.

The same initial calibration curve was used so the Initial calibration data standards are in the original data package.

QUANTITATION REPORT

EPA Method TO-11A Modified HPLC

Method:	TO-11A	**Detect Flag:**	ND		**SDG:**	LABQC	
Run Method:	TO11.MTH	**MDL FAC**	1		**EAS ID:**	QC04104C	
Quant Method:	TO11.MTH	**SF:**	2		**File Name:**	QC04104C.D	
Cal Update:	11/12/2013	**Matrix:**	AA		**Sample ID:**	QC04104A	
Template:	WNK_TO11	**UnitDil:**	1000	UG UG/M3	**Date Sampled:**	NA	**Time:** NA
Instrument:	HPLC	**Temp**	25.0		**Date Received:**	NA	**Time:** NA
Analyst	SH	**Instrument:**	HPT		**Date Extracted:**	NA	**Time:** NA
		Type	TRG		**Date Analyzed:**	04/10/14	**Time:** 12:50
					SamType:	LCS	
					Air Volume:	1000.00 Liters	
					Can (Vial) No:		
					QCbatch:	041014-HPT	
					EXT Volume:	4 ml	

CAS#	Compound	n	Type	STD RT	RT LOW	RT HIGH	ADJ RT	SAM RT	Sample Area	**Standard Area**
50-00-0	Formaldehyde	1	TRG	**3.85**	3.31	4.39		**3.84**	82246	**61697**
75-07-0	Acetaldehyde	2	TRG	**4.92**	4.17	5.67	4.91	**4.91**	62669	**49021**
67-64-1	Acetone	4	TRG	**6.46**	5.40	7.52	6.45	**6.46**	51803.5	**41716**
123-38-6	Propionaldehyde	5	TRG	**7.19**	6.11	8.27	7.18	**7.19**	50684	**39575**
78-93-3	Methylethylketone	6	TRG	**0.00**	8.04	9.78	8.90	**0.00**	0	NOT IN STD
4170-30-3	Crotonaldehyde	7	TRG	**8.91**	8.55	12.25	10.39	**8.92**	43244	**34852**
123-72-8	Butyraldehyde	8	TRG	**10.40**	10.32	13.28	11.79	**10.42**	39656	**30908**
100-52-7	Benzaldehyde	9	TRG	**11.80**	11.59	17.43	14.50	**11.84**	28685	**23500**
590-86-3	Isovaleraldehyde	10	TRG	**14.51**	13.47	17.61	15.53	**14.55**	33442	**26960**
110-62-3	Valeraldehyde	11	TRG	**15.54**	14.39	19.11	16.74	**15.58**	31197	**24604**
529-20-4	o-Tolualdehyde	12	TRG	**16.75**	13.29	21.63	17.45	**16.83**	23451	**18664**
620-23-5	m-Tolualdehyde	13	TRG	**17.46**	14.08	21.64	17.85	**17.54**	24489	**20207**
104-87-0	p-Tolualdehyde	14	TRG	**17.86**	18.76	28.70	23.72	**17.97**	26841	**20986**
66-25-1	Hexaldehyde	15	TRG	**23.73**	20.11	27.35	23.72	**23.91**	26270	**21760**

Acrolein	3.948
2,5 Dimethylbenzaldehyde	14.459

STD	**0.60**	ug/ml	
	E18		
Initial Cal	E18		
Con Cal	D18		

Calc RL UG	Calc RL UG/M3	U Flag	Flag	EPA Flag	Detect Flag	R
0.120	0.12				=	Y
0.150	0.15				=	Y
0.300	0.30				=	Y
0.150	0.15				=	Y
0.150	0.15	U	ND		ND	Y
0.150	0.15				=	Y
0.150	0.15				=	Y
0.150	0.15				=	Y
0.150	0.15				=	Y
0.300	0.30				=	Y
0.300	0.30				=	Y
0.300	0.30				=	Y
0.300	0.30				=	Y
0.300	0.30				=	Y

Area Percent Report

Data File Name : C:\GCCHEM\1\DATA\04104HPT\QC04104C.D
Operator : KB
Instrument : HPT
Sample Name : QC04104A
Run Time Bar Code:
Acquired on : 10 Apr 14 12:50 PM
Report Created on: 10 Apr 14 01:18 PM

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: TO11.MTH
Analysis Method : TO11.MTH

Sig. 1 in C:\GCCHEM\1\DATA\04104HPT\QC04104C.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	1.233	17063	1175	BV	0.204	0.5274
2	1.914	10296	737	VV	0.199	0.3182
3	2.504	2612439	171856	VV	0.207	80.7521
4	3.840	82246	4767	VV	0.237	2.5423
5	4.908	62669	3322	VB	0.271	1.9371
6	6.462	103607	4476	MF	0.386	3.2025
7	7.192	50684	2245	FF	0.376	1.5667
8	8.919	43244	1811	FF	0.398	1.3367
9	10.422	39656	1415	FF	0.467	1.2258
10	11.843	28685	1081	FM	0.442	0.8867
11	14.551	33442	974	BF	0.494	1.0337
12	15.584	31197	924	FF	0.487	0.9643
13	16.825	23451	761	FF	0.474	0.7249
14	17.537	24489	824	FF	0.438	0.7570
15	17.966	26841	827	FB	0.477	0.8297
16	23.911	26270	577	BF	0.656	0.8120
17	24.927	18856	480	FBA	0.626	0.5829

Total area = 3235135

User Modified

C:\GCCHEM\1\DATA\041104HPT\GC041
user modified
1.233
1.914
2.504
3.840
4.908
6.462
7.192
8.919
10.422
11.843
14.551
15.584
16.825
17.537
17.966
23.911
24.927
5
10
15
20
25
5000
5500
6000
6500
7000

QUANTITATION REPORT

EPA Method TO-11A Modified HPLC

Method:	TO-11A	**Detect Flag:**	ND		
Run Method:	TO11.MTH	**MDL FAC**	1		
Quant Method	TO11.MTH	**SF:**	2		
Cal Update:	11/12/2013	**Matrix:**	AA		
Template:	WNK_TO11	**UnitDil:**	1000	UG	UG/M3
Instrument:	HPLC	**Temp**	25.0		
Analyst	SH	**Instrument:**	HPT		
		Type	TRG		

SDG: LABQC
EAS ID: QC04104D
File Name: QC04104D.D
Sample ID: QC04104A
Date Sampled: NA **Time:** NA
Date Received: NA **Time:** NA
Date Extracted: NA **Time:** NA
Date Analyzed: 04/10/14 **Time:** 13:19
SamType: LCD
Air Volume: 1000.00 Liters
Can (Vial) No:
QCbatch: 041014-HPT
EXT Volume: 4 ml

CAS#	Compound	n	Type	STD RT	RT LOW	RT HIGH	ADJ RT	SAM RT	Sample Area	**Standard Area**
50-00-0	Formaldehyde	1	TRG	**3.85**	3.31	4.39		**3.86**	85430	**61697**
75-07-0	Acetaldehyde	2	TRG	**4.92**	4.17	5.67	4.93	**4.93**	65261	**49021**
67-64-1	Acetone	4	TRG	**6.46**	5.40	7.52	6.47	**6.48**	54421	**41716**
123-38-6	Propionaldehyde	5	TRG	**7.19**	6.11	8.27	7.20	**7.21**	51508	**39575**
78-93-3	Methylethylketone	6	TRG	**0.00**	-0.87	0.87	0.01	**0.00**	0	NOT IN STD
4170-30-3	Crotonaldehyde	7	TRG	**8.91**	7.06	10.76	8.92	**8.95**	44302	**34852**
123-72-8	Butyraldehyde	8	TRG	**10.40**	8.92	11.88	10.41	**10.45**	42021	**30908**
100-52-7	Benzaldehyde	9	TRG	**11.80**	8.88	14.72	11.81	**11.88**	29819	**23500**
590-86-3	Isovaleraldehyde	10	TRG	**14.51**	12.44	16.58	14.52	**14.59**	34613	**26960**
110-62-3	Valeraldehyde	11	TRG	**15.54**	13.18	17.90	15.55	**15.62**	32253	**24604**
529-20-4	o-Tolualdehyde	12	TRG	**16.75**	12.58	20.92	16.76	**16.87**	24225	**18664**
620-23-5	m-Tolualdehyde	13	TRG	**17.46**	13.68	21.24	17.47	**17.58**	26232	**20207**
104-87-0	p-Tolualdehyde	14	TRG	**17.86**	12.89	22.83	17.87	**18.01**	27123	**20986**
66-25-1	Hexaldehyde	15	TRG	**23.73**	20.11	27.35	23.74	**23.95**	28538	**21760**

Acrolein	3.948
2,5 Dimethylbenzaldehyde	14.459

STD	**0.60**	ug/ml
	E18	
Initial Cal	E18	
Con Cal	D18	

CALCULATIONS

EPA Method TO-11A Modified HPLC

RL: TO11.MTH
Run Method: TO11.MTH
Calibration Method D18 Continuing Calibration
Air Volume: 1000 Liters
Dilution Factor 1.0
Gas Constant: 24.462
Unit Factor (ppbv) 1000 UG UG/M3
Sig Figs 2 MDL Factor 1

SDG: LABQC
Laboratory Number: QC04104D

Gas Constant
T 25.0
P 760
MV 24.4622

Compound	M.W.	ConCal Raw UG/ML	InitCal Raw UG/ML	ResultV UG	Result UG/M3	Result PPBV	Fixed ResultV UG	Fixed Result UG/M3	Fixed ResultQ UG/M3	Fixed Result PPBV	(1) MDL	(2) RL UG	Calc MDL UG	Calc MDL UG/M3
Formaldehyde	30.0	0.83	0.70	2.80	2.80	2.28	2.80	2.80	2.80	2.28	0.050	0.120	0.05	0.05
Acetaldehyde	44.1	0.80	0.61	2.45	2.45	1.36	2.45	2.45	2.45	1.36	0.080	0.150	0.08	0.08
Acetone	58.1	0.78	0.55	2.21	2.21	0.93	2.21	2.21	2.21	0.93	0.250	0.300	0.25	0.25
Propionaldehyde	58.1	0.78	0.43	1.74	1.74	0.73	1.74	1.74	1.74	0.73	0.080	0.150	0.08	0.08
Methylethylketone	72.1	0.00	0.00	0.00	0.00	0.00	ND	ND		ND	0.080	0.150	0.08	0.08
Crotonaldehyde	70.1	0.76	0.64	2.55	2.55	0.89	2.55	2.55	2.55	0.89	0.080	0.150	0.08	0.08
Butyraldehyde	72.1	0.82	0.70	2.80	2.80	0.95	2.80	2.80	2.80	0.95	0.080	0.150	0.08	0.08
Benzaldehyde	106.1	0.76	0.64	2.56	2.56	0.59	2.56	2.56	2.56	0.59	0.080	0.150	0.08	0.08
Isovaleraldehyde	86.1	0.77	0.70	2.81	2.81	0.80	2.81	2.81	2.81	0.80	0.080	0.150	0.08	0.08
Valeraldehyde	86.1	0.79	0.64	2.57	2.57	0.73	2.57	2.57	2.57	0.73	0.120	0.300	0.12	0.12
o-Tolualdehyde	120.2	0.78	0.72	2.89	2.89	0.59	2.89	2.89	2.89	0.59	0.120	0.300	0.12	0.12
m-Tolualdehyde	120.2	0.78	0.66	2.64	2.64	0.54	2.64	2.64	2.64	0.54	0.120	0.300	0.12	0.12
p-Tolualdehyde	120.2	0.78	0.58	2.31	2.31	0.47	2.31	2.31	2.31	0.47	0.120	0.300	0.12	0.12
Hexaldehyde	100.2	0.79	0.71	2.83	2.83	0.69	2.83	2.83	2.83	0.69	0.120	0.300	0.12	0.12

Calc RL UG	Calc RL UG/M3	U Flag	Flag	EPA Flag	Detect Flag	R
0.120	0.12				=	Y
0.150	0.15				=	Y
0.300	0.30				=	Y
0.150	0.15				=	Y
0.150	0.15	U	ND		ND	Y
0.150	0.15				=	Y
0.150	0.15				=	Y
0.150	0.15				=	Y
0.150	0.15				=	Y
0.300	0.30				=	Y
0.300	0.30				=	Y
0.300	0.30				=	Y
0.300	0.30				=	Y
0.300	0.30				=	Y

Area Percent Report

Data File Name : C:\GCCHEM\1\DATA\04104HPT\QC04104D.D
Operator : KB
Instrument : HPT
Sample Name : QC04104A
Run Time Bar Code:
Acquired on : 10 Apr 14 01:19 PM
Report Created on: 10 Apr 14 01:46 PM

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: TO11.MTH
Analysis Method : TO11.MTH

Sig. 1 in C:\GCCHEM\1\DATA\04104HPT\QC04104D.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	1.240	17680	1224	BV	0.205	0.5249
2	1.925	10730	773	VV	0.192	0.3185
3	2.520	2716987	178236	VV	0.210	80.6608
4	3.860	85430	4953	VV	0.239	2.5362
5	4.931	65261	3452	VB	0.273	1.9374
6	6.481	108842	4652	MF	0.390	3.2313
7	7.216	51508	2324	FM	0.369	1.5291
8	8.420	1066	72	BF T	0.246	0.0317
9	8.952	44302	1878	FF T	0.356	1.3152
10	10.454	42021	1478	FF T	0.401	1.2475
11	11.877	29819	1120	FF T	0.397	0.8853
12	14.589	34613	1009	BF	0.498	1.0276
13	15.624	32253	958	FF	0.494	0.9575
14	16.867	24225	788	FF	0.471	0.7192
15	17.584	26232	857	FF	0.447	0.7788
16	18.008	27123	855	FB	0.470	0.8052
17	23.952	28538	614	BF	0.671	0.8472
18	24.965	21782	524	FBA	0.636	0.6467

Total area = 3368412

User Modified

5000
5500
6000
6500
7000
1.240
1.925
2.520
3.860
4.931
6.481
7.216
8.420
8.952
10.454
11.877
14.589
15.624
16.867
17.584
18.008
23.952
24.965
5
10
15
20
25
Peaktint user modified
C:\GCCHEM\1\DATA\041104HPT\GC041

QUANTITATION REPORT

EPA Method TO-11A Modified HPLC

Method:	TO-11A	**Detect Flag:**	ND		**SDG:**	LABQC	
Run Method:	TO11.MTH	**MDL FAC**	1		**EAS ID:**	QC04104F	
Quant Method	TO11.MTH	**SF:**	2		**File Name:**	QC04104F.D	
Cal Update:	11/12/2013	**Matrix:**	AA		**Sample ID:**	QC04104B	
Template:	WNK_TO11	**UnitDil:**	1000	UG UG/M3	**Date Sampled:**	NA	**Time:** NA
Instrument:	HPLC	**Temp**	25.0		**Date Received:**	NA	**Time:** NA
Analyst	SH	**Instrument:**	HPT		**Date Extracted:**	NA	**Time:** NA
		Type	TRG		**Date Analyzed:**	04/10/14	**Time:** 14:14
					SamType:	LCS	
					Air Volume:	1000.00 Liters	
					Can (Vial) No:		
					QCbatch:	041014-HPT	
					EXT Volume:	4 ml	

CAS#	Compound	n	Type	STD RT	RT LOW	RT HIGH	ADJ RT	SAM RT	Sample Area	**Standard Area**
50-00-0	Formaldehyde	1	TRG	**3.85**	3.31	4.39		**3.93**	81050	**61697**
75-07-0	Acetaldehyde	2	TRG	**4.92**	4.17	5.67	5.04	**5.04**	62634	**49021**
67-64-1	Acetone	4	TRG	**6.46**	5.40	7.52	6.58	**6.64**	51504.5	**41716**
123-38-6	Propionaldehyde	5	TRG	**7.19**	6.11	8.27	7.31	**7.39**	56822	**39575**
78-93-3	Methylethylketone	6	TRG	**0.00**	-0.87	0.87	0.12	**0.00**	0	NOT IN STD
4170-30-3	Crotonaldehyde	7	TRG	**8.91**	7.06	10.76	9.03	**9.21**	43127	**34852**
123-72-8	Butyraldehyde	8	TRG	**10.40**	8.92	11.88	10.52	**10.73**	43915	**30908**
100-52-7	Benzaldehyde	9	TRG	**11.80**	8.88	14.72	11.92	**12.28**	28560	**23500**
590-86-3	Isovaleraldehyde	10	TRG	**14.51**	12.44	16.58	14.63	**15.00**	33476	**26960**
110-62-3	Valeraldehyde	11	TRG	**15.54**	13.18	17.90	15.66	**16.09**	30976	**24604**
529-20-4	o-Tolualdehyde	12	TRG	**16.75**	12.58	20.92	16.87	**17.50**	23513	**18664**
620-23-5	m-Tolualdehyde	13	TRG	**17.46**	13.68	21.24	17.58	**18.22**	25161	**20207**
104-87-0	p-Tolualdehyde	14	TRG	**17.86**	12.89	22.83	17.98	**18.75**	25910	**20986**
66-25-1	Hexaldehyde	15	TRG	**23.73**	20.11	27.35	23.85	**24.74**	27419	**21760**

Acrolein	3.948		STD	**0.60**	ug/ml
2,5 Dimethylbenzaldehyde	14.459		E18		
		Initial Cal	E18		
		Con Cal	D18		

CALCULATIONS

EPA Method TO-11A Modified HPLC

RL: TO11.MTH
Run Method: TO11.MTH
Calibration Method D18 Continuing Calibration
Air Volume: 1000 Liters
Dilution Factor 1.0
Gas Constant: 24.462
Unit Factor (ppbv) 1000 UG UG/M3
Sig Figs 2 MDL Factor 1

SDG: **LABQC**
Laboratory Number: **QC04104F**

Gas Constant
T 25.0
P 760
MV 24.4622

Compound	M.W.	ConCal Raw UG/ML	InitCal Raw UG/ML	ResultV UG	Result UG/M3	Result PPBV	Fixed ResultV UG	Fixed Result UG/M3	Fixed ResultQ UG/M3	Fixed Result PPBV	(1) MDL	(2) RL UG	Calc MDL UG	Calc MDL UG/M3
Formaldehyde	30.0	0.79	0.66	2.65	2.65	2.16	2.65	2.65	2.65	2.16	0.050	0.120	0.05	0.05
Acetaldehyde	44.1	0.77	0.59	2.35	2.35	1.30	2.35	2.35	2.35	1.30	0.080	0.150	0.08	0.08
Acetone	58.1	0.74	0.52	2.09	2.09	0.88	2.09	2.09	2.09	0.88	0.250	0.300	0.25	0.25
Propionaldehyde	58.1	0.86	0.48	1.91	1.91	0.81	1.91	1.91	1.91	0.81	0.080	0.150	0.08	0.08
Methylethylketone	72.1	0.00	0.00	0.00	0.00	0.00	ND	ND		ND	0.080	0.150	0.08	0.08
Crotonaldehyde	70.1	0.74	0.62	2.49	2.49	0.87	2.49	2.49	2.49	0.87	0.080	0.150	0.08	0.08
Butyraldehyde	72.1	0.85	0.73	2.92	2.92	0.99	2.92	2.92	2.92	0.99	0.080	0.150	0.08	0.08
Benzaldehyde	106.1	0.73	0.61	2.45	2.45	0.56	2.45	2.45	2.45	0.56	0.080	0.150	0.08	0.08
Isovaleraldehyde	86.1	0.75	0.68	2.72	2.72	0.77	2.72	2.72	2.72	0.77	0.080	0.150	0.08	0.08
Valeraldehyde	86.1	0.76	0.62	2.47	2.47	0.70	2.47	2.47	2.47	0.70	0.120	0.300	0.12	0.12
o-Tolualdehyde	120.2	0.76	0.70	2.81	2.81	0.57	2.81	2.81	2.81	0.57	0.120	0.300	0.12	0.12
m-Tolualdehyde	120.2	0.75	0.63	2.53	2.53	0.52	2.53	2.53	2.53	0.52	0.120	0.300	0.12	0.12
p-Tolualdehyde	120.2	0.74	0.55	2.20	2.20	0.45	2.20	2.20	2.20	0.45	0.120	0.300	0.12	0.12
Hexaldehyde	100.2	0.76	0.68	2.72	2.72	0.66	2.72	2.72	2.72	0.66	0.120	0.300	0.12	0.12

Calc RL UG	Calc RL UG/M3	U Flag	Flag	EPA Flag	Detect Flag	R
0.120	0.12				=	Y
0.150	0.15				=	Y
0.300	0.30				=	Y
0.150	0.15				=	Y
0.150	0.15	U	ND		ND	Y
0.150	0.15				=	Y
0.150	0.15				=	Y
0.150	0.15				=	Y
0.150	0.15				=	Y
0.300	0.30				=	Y
0.300	0.30				=	Y
0.300	0.30				=	Y
0.300	0.30				=	Y
0.300	0.30				=	Y

Area Percent Report

Data File Name : C:\GCCHEM\1\DATA\04104HPT\QC04104F.D
Operator : KB
Instrument : HPT
Sample Name : QC04104B
Run Time Bar Code:
Acquired on : 10 Apr 14 02:14 PM
Report Created on: 10 Apr 14 02:42 PM

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: TO11.MTH
Analysis Method : TO11.MTH

Sig. 1 in C:\GCCHEM\1\DATA\04104HPT\QC04104F.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	1.226	15085	1152	MF	0.218	0.4742
2	1.904	4739	396	FF	0.200	0.1490
3	2.550	2555223	165185	FF	0.258	80.3225
4	3.932	81050	4668	FF	0.289	2.5478
5	5.036	62634	3254	FF	0.321	1.9689
6	6.639	103009	4472	FF	0.384	3.2381
7	7.388	56822	2230	FM	0.425	1.7862
8	9.212	43127	1704	MM	0.422	1.3557
9	10.731	43915	1406	FF T	0.435	1.3804
10	12.276	28560	1042	FF T	0.423	0.8978
11	15.001	33476	947	BF	0.514	1.0523
12	16.086	30976	897	FF	0.510	0.9737
13	17.495	23513	732	FF	0.492	0.7391
14	18.217	25161	784	FF	0.469	0.7909
15	18.744	25910	758	FB	0.502	0.8145
16	24.736	27419	577	BF	0.703	0.8619
17	25.967	20586	483	FBA	0.647	0.6471

Total area = 3181203

User Modified

1.226
1.904
2.550
3.932
5.036
6.639
7.388
9.212
10.731
12.276
15.001
16.086
17.495
18.217
18.744
24.736
25.967
5
10
15
20
25
5500
6000
6500
7000
7500
user modified
C:\GCCHEM\1\DATA\041104HPT\GC041

QUANTITATION REPORT

EPA Method TO-11A Modified HPLC

Method:	TO-11A	**Detect Flag:**	ND		
Run Method:	TO11.MTH	**MDL FAC**	1		
Quant Method	TO11.MTH	**SF:**	2		
Cal Update:	11/12/2013	**Matrix:**	AA		
Template:	WNK_TO11	**UnitDil:**	1000	UG	UG/M3
Instrument:	HPLC	**Temp**	25.0		
Analyst	SH	**Instrument:**	HPT		
		Type	TRG		

SDG:	LABQC		
EAS ID:	QC04104E		
File Name:	QC04104E.D		
Sample ID:	QC04104B		
Date Sampled:	NA	**Time:**	NA
Date Received:	NA	**Time:**	NA
Date Extracted:	NA	**Time:**	NA
Date Analyzed:	04/10/14	**Time:**	13:46
SamType:	LCD		
Air Volume:	1000.00 Liters		
Can (Vial) No:			
QCbatch:	041014-HPT		
EXT Volume:	4 ml		

CAS#	Compound	n	Type	STD RT	RT LOW	RT HIGH	ADJ RT	SAM RT	Sample Area	Standard Area
50-00-0	Formaldehyde	1	TRG	**3.85**	3.31	4.39		**3.86**	82558	**61697**
75-07-0	Acetaldehyde	2	TRG	**4.92**	4.17	5.67	4.93	**4.93**	63303	**49021**
67-64-1	Acetone	4	TRG	**6.46**	5.40	7.52	6.47	**6.48**	51029.5	**41716**
123-38-6	Propionaldehyde	5	TRG	**7.19**	6.11	8.27	7.20	**7.21**	54771	**39575**
78-93-3	Methylethylketone	6	TRG	**0.00**	-0.87	0.87	0.01	**0.00**	0	NOT IN STD
4170-30-3	Crotonaldehyde	7	TRG	**8.91**	7.06	10.76	8.92	**8.94**	41937	**34852**
123-72-8	Butyraldehyde	8	TRG	**10.40**	8.92	11.88	10.41	**10.44**	42697	**30908**
100-52-7	Benzaldehyde	9	TRG	**11.80**	8.88	14.72	11.81	**11.86**	29106	**23500**
590-86-3	Isovaleraldehyde	10	TRG	**14.51**	12.44	16.58	14.52	**14.56**	33933	**26960**
110-62-3	Valeraldehyde	11	TRG	**15.54**	13.18	17.90	15.55	**15.59**	31763	**24604**
529-20-4	o-Tolualdehyde	12	TRG	**16.75**	12.58	20.92	16.76	**16.82**	24708	**18664**
620-23-5	m-Tolualdehyde	13	TRG	**17.46**	13.68	21.24	17.47	**17.53**	24126	**20207**
104-87-0	p-Tolualdehyde	14	TRG	**17.86**	12.89	22.83	17.87	**17.95**	26854	**20986**
66-25-1	Hexaldehyde	15	TRG	**23.73**	20.11	27.35	23.74	**23.99**	26135	**21760**

Acrolein	3.948
2,5 Dimethylbenzaldehyde	14.459

STD	**0.60**	ug/ml
	E18	
Initial Cal	E18	
Con Cal	D18	

CALCULATIONS

EPA Method TO-11A Modified HPLC

RL: TO11.MTH
Run Method: TO11.MTH
Calibration Method D18 Continuing Calibration
Air Volume: 1000 Liters
Dilution Factor 1.0
Gas Constant: 24.462
Unit Factor (ppbv) 1000 UG UG/M3
Sig Figs 2 MDL Factor 1

SDG: **LABQC**
Laboratory Number: **QC04104E**

Gas Constant
T 25.0
P 760
MV 24.4622

Compound	M.W.	ConCal Raw UG/ML	InitCal Raw UG/ML	ResultV UG	Result UG/M3	Result PPBV	Fixed ResultV UG	Fixed Result UG/M3	Fixed ResultQ UG/M3	Fixed Result PPBV	(1) MDL	(2) RL UG	Calc MDL UG	Calc MDL UG/M3
Formaldehyde	30.0	0.80	0.68	2.70	2.70	2.20	2.70	2.70	2.70	2.20	0.050	0.120	0.05	0.05
Acetaldehyde	44.1	0.77	0.59	2.38	2.38	1.32	2.38	2.38	2.38	1.32	0.080	0.150	0.08	0.08
Acetone	58.1	0.73	0.52	2.07	2.07	0.87	2.07	2.07	2.07	0.87	0.250	0.300	0.25	0.25
Propionaldehyde	58.1	0.83	0.46	1.85	1.85	0.78	1.85	1.85	1.85	0.78	0.080	0.150	0.08	0.08
Methylethylketone	72.1	0.00	0.00	0.00	0.00	0.00	ND	ND		ND	0.080	0.150	0.08	0.08
Crotonaldehyde	70.1	0.72	0.60	2.42	2.42	0.84	2.42	2.42	2.42	0.84	0.080	0.150	0.08	0.08
Butyraldehyde	72.1	0.83	0.71	2.84	2.84	0.96	2.84	2.84	2.84	0.96	0.080	0.150	0.08	0.08
Benzaldehyde	106.1	0.74	0.62	2.49	2.49	0.58	2.49	2.49	2.49	0.58	0.080	0.150	0.08	0.08
Isovaleraldehyde	86.1	0.76	0.69	2.76	2.76	0.78	2.76	2.76	2.76	0.78	0.080	0.150	0.08	0.08
Valeraldehyde	86.1	0.77	0.63	2.53	2.53	0.72	2.53	2.53	2.53	0.72	0.120	0.300	0.12	0.12
o-Tolualdehyde	120.2	0.79	0.74	2.95	2.95	0.60	2.95	2.95	2.95	0.60	0.120	0.300	0.12	0.12
m-Tolualdehyde	120.2	0.72	0.61	2.43	2.43	0.49	2.43	2.43	2.43	0.49	0.120	0.300	0.12	0.12
p-Tolualdehyde	120.2	0.77	0.57	2.28	2.28	0.46	2.28	2.28	2.28	0.46	0.120	0.300	0.12	0.12
Hexaldehyde	100.2	0.72	0.65	2.59	2.59	0.63	2.59	2.59	2.59	0.63	0.120	0.300	0.12	0.12

Calc RL UG	Calc RL UG/M3	U Flag	Flag	EPA Flag	Detect Flag	R
0.120	0.12				=	Y
0.150	0.15				=	Y
0.300	0.30				=	Y
0.150	0.15				=	Y
0.150	0.15	U	ND		ND	Y
0.150	0.15				=	Y
0.150	0.15				=	Y
0.150	0.15				=	Y
0.150	0.15				=	Y
0.300	0.30				=	Y
0.300	0.30				=	Y
0.300	0.30				=	Y
0.300	0.30				=	Y
0.300	0.30				=	Y

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Area Percent Report

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Data File Name : C:\GCCHEM\1\DATA\04104HPT\QC04104E.D
Operator : KB
Instrument : HPT
Sample Name : QC04104B
Run Time Bar Code:
Acquired on : 10 Apr 14 01:46 PM
Report Created on: 10 Apr 14 02:13 PM

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: TO11.MTH
Analysis Method : TO11.MTH

Sig. 1 in C:\GCCHEM\1\DATA\04104HPT\QC04104E.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	1.238	17467	1206	BV	0.206	0.5512
2	1.918	6645	451	VV	0.203	0.2097
3	2.518	2540258	166320	VV	0.209	80.1632
4	3.858	82558	4767	VF	0.239	2.6053
5	4.927	63303	3328	MM	0.317	1.9977
6	6.481	102059	4428	MF	0.384	3.2207
7	7.205	54771	2266	FM	0.403	1.7284
8	8.942	41937	1734	BF T	0.362	1.3234
9	10.437	42697	1429	FF T	0.418	1.3474
10	11.856	29106	1086	FF T	0.398	0.9185
11	14.555	33933	980	BF	0.499	1.0708
12	15.586	31763	937	FF	0.495	1.0024
13	16.820	24708	779	FF	0.468	0.7797
14	17.526	24126	826	FF	0.417	0.7613
15	17.951	26854	826	FB	0.492	0.8474
16	23.988	26135	570	BF	0.666	0.8248
17	25.046	20541	487	FBA	0.637	0.6482

Total area = 3168860

User Modified

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C:\GCCHEM\1\DATA\041104HPT\GC041