

TRIANGLE LABS

SAMPLE DATA

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TRIANGLE LABORATORIES, INC.
LAB CONTROL SPIKE RECOVERY ANALYSIS AND COMPARISON

Project: 56392
Matrix: GAUZE
Method: 8290

Isomer	S020226	S020236	Percent Recovery	S020237	Percent Recovery	Relative Percent Difference
	ID: TLI Blank Sample (ng)	ID: TLI LCS With Spike (ng)		ID: TLI LCSD Spike Dup (ng)		
2378-TCDD	[0.008]	0.36	87.9	0.38	92.7	5.32
12378-PeCDD	ND	1.7	84.0	1.7	85.1	1.30
123478-HxCDD	ND	1.7	84.9	2.0	99.4	15.7
123678-HxCDD	ND	1.8	92.3	2.0	99.8	7.81
123789-HxCDD	ND	1.7	87.2	2.0	100	13.7
1234678-HpCDD	ND	1.7	84.3	1.9	92.6	9.38
OCDD	ND	4.2	105	4.3	108	2.82
2378-TCDF	0.01	0.40	97.6	0.41	99.1	1.53
12378-PeCDF	ND	1.9	94.2	2.0	97.5	3.44
23478-PeCDF	ND	1.9	94.1	2.0	99.4	5.48
123478-HxCDF	ND	1.6	79.9	1.7	84.5	5.60
123678-HxCDF	ND	1.8	91.0	1.9	95.9	5.24
234678-HxCDF	ND	1.9	96.8	2.1	104	7.17
123789-HxCDF	ND	1.9	92.9	2.1	105	12.2
1234678-HpCDF	ND	2.2	108	2.2	108	0.0
1234789-HpCDF	ND	2.5	127	2.6	129	1.56
OCDF	ND	3.2	80.5	3.5	88.2	9.13

ND: Not Detected
NA: Not Applicable
[...]: EMPC Value

MILES 4.22.16
GRY_PSUM v1.10

Processed By: VIC

Date: 01/18/02

Percent Recovery QC Limits: 70 to 130 percent.
Relative Percent Difference QC Limits: +/- 20 percent.

Nominal Spike Levels:

TCDD/TCDF...: 0.4 ng
PeCDD/PeCDF: 2.0 ng
HxCDD/HxCDF: 2.0 ng
HpCDD/HpCDF: 2.0 ng
OCDD/OCDF...: 4.0 ng

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Sample Results for Project 56392
Method MIT3 Analysis (DB-5)

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Data File	S020226	S020233	S020234	S020235
Sample ID	TLI Blank	603	605	606
Units	ng	ng	ng	ng
Extraction Date	01/14/2002	01/14/2002	01/14/2002	01/14/2002
Analysis Date	01/16/2002	01/16/2002	01/16/2002	01/16/2002
Instrument	S	S	S	S
Matrix	GAUZE	WIPE	WIPE	WIPE
Extraction Type				
=====				
Analytes				
2378-TCDD	(0.008)J	0.04 B	0.006 JB	0.16
12378-PeCDD	(0.005)	(0.09) J	(0.01) J	(0.48)
123478-HxCDD	(0.006)	0.09 J	0.007 J	0.29
123678-HxCDD	(0.006)	0.18	0.02 J	0.56
123789-HxCDD	(0.006)	0.32	0.02 J	0.86
1234678-HpCDD	(0.008)	1.3	0.28	2.7
OCDD	(0.01)	4.9	2.7	10.9
2378-TCDF	0.01 J	1.4	0.18 B	8.1 E
12378-PeCDF	(0.004)	(0.25) X	(0.03) XJ	(1.3) X
23478-PeCDF	(0.004)	0.31	0.03 J	1.4
123478-HxCDF	(0.004)	0.67	0.05 J	2.5
123678-HxCDF	(0.005)	0.28	0.03 J	0.87
234678-HxCDF	(0.004)	0.35	0.03 J	1.4
123789-HxCDF	(0.005)	(0.17) X	0.009 J	0.22
1234678-HpCDF	(0.008)	1.4	0.10 J	2.6
1234789-HpCDF	(0.009)	0.21	(0.02) J	0.64
OCDF	(0.008)	0.95	0.10 J	1.2
TOTAL TCDD	(0.01)	13.1	1.3	54.5 E
TOTAL PeCDD	(0.005)	5.9	0.67	35.2
TOTAL HxCDD	(0.02)	5.6	0.37	20.4
TOTAL HpCDD	(0.008)	2.8	0.59	6.1
TOTAL TCDF	0.01	8.7	1.0	42.3 E
TOTAL PeCDF	(0.004)	4.9	0.37	16.0 X
TOTAL HxCDF	(0.005)	3.1	0.23	8.6
TOTAL HpCDF	(0.008)	2.3	0.21	5.2
Other Standards Percent Recovery Summary (% Rec)				
37C1-TCDD	78.6	74.4	63.3	83.7
Other Standards Percent Recovery Summary (% Rec)				
13C12-PeCDF 234	93.8	98.8	82.9	92.5
13C12-HxCDF 478	68.6	55.1	50.4	22.2 V
13C12-HxCDD 478	93.1	58.2	62.4	40.1
13C12-HpCDF 789	106	68.0	63.7	42.6
Other Standards Percent Recovery Summary (% Rec)				
13C12-HxCDF 789	91.3	53.4	54.0	37.7 V
13C12-HxCDF 234	93.1	53.0	51.2	36.3 V
Internal Standards Percent Recovery Summary (% Rec)				
13C12-2378-TCDF	76.0	73.3	57.8	71.8
13C12-2378-TCDD	80.0	76.6	63.5	78.4

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=====
Data File      S020226      S020233      S020234      S020235
Sample ID      TLI Blank      603      605      606

Units          ng          ng          ng          ng
Extraction Date 01/14/2002 01/14/2002 01/14/2002 01/14/2002
Analysis Date  01/16/2002 01/16/2002 01/16/2002 01/16/2002
Instrument      S          S          S          S
Matrix         GAUZE      WIPE      WIPE      WIPE
Extraction Type

=====
Internal Standards Percent Recovery Summary (% Rec)
13C12-PeCDF 123      83.2      91.0      80.4      87.6
13C12-PeCDD 123      98.2      108      89.1      98.4
13C12-HxCDF 678      74.8      55.8      54.3      24.7 V
13C12-HxCDD 678      99.1      58.6      82.7      41.3
13C12-HpCDF 678      61.8      60.9      52.2      19.4 V
13C12-HpCDD 678      121      78.5      80.6      53.2
13C12-OCDD         128      81.9      81.2      51.0
  
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Data File	W010205	W010206	W010207	W010208
Sample ID	607	608	609	610
Units	ng	ng	ng	ng
Extraction Date	01/14/2002	01/14/2002	01/14/2002	01/14/2002
Analysis Date	01/16/2002	01/16/2002	01/16/2002	01/16/2002
Instrument	W	W	W	W
Matrix	WIPE	WIPE	WIPE	WIPE
Extraction Type				
=====				
Analytes				
2378-TCDD	0.04 B	0.16	0.13 B	0.03 B
12378-PeCDD	0.11	0.48	0.47	0.07 J
123478-HxCDD	0.08 J	0.31	0.30	0.04 J
123678-HxCDD	0.18	0.52	0.53	0.06 J
123789-HxCDD	(0.26)	0.92	(0.81)	(0.10)
1234678-HpCDD	1.8	2.6	2.1	0.37
OCDD	11.7	7.6	3.3	1.5
2378-TCDF	1.8	6.3	5.1	1.1
12378-PeCDF	(0.25) X	(1.1) X	(1.1) X	(0.15) X
23478-PeCDF	0.37	1.2	1.3	0.14
123478-HxCDF	0.60	2.1	2.1	0.25
123678-HxCDF	0.25	0.84	0.84	0.10
234678-HxCDF	0.30	(0.85) X	0.97	0.11
123789-HxCDF	(0.10) X	(0.70) X	(0.30) X	0.04 J
1234678-HpCDF	0.80	2.3	2.3	0.31
1234789-HpCDF	(0.15)	0.30	0.34	(0.05) J
OCDF	0.62	0.98	0.78	0.16 J
TOTAL TCDD	14.4	51.7 E	28.5 E	8.4
TOTAL PeCDD	7.5	35.7	33.7	4.7
TOTAL HxCDD	5.6	21.2	18.3	2.3
TOTAL HpCDD	3.7	6.2	5.0	0.81
TOTAL TCDF	11.5	30.7 X	21.7	6.4
TOTAL PeCDF	4.3 X	18.1 X	16.0 X	1.8 X
TOTAL HxCDF	2.6	8.1 X	7.5	0.78
TOTAL HpCDF	1.5	3.1 X	3.6	0.44
Other Standards Percent Recovery Summary (% Rec)				
37C1-TCDD	93.7	102	78.9	88.8
Other Standards Percent Recovery Summary (% Rec)				
13C12-PeCDF 234	111	112	97.2	97.3
13C12-HxCDF 478	70.2	92.7	74.4	71.9
13C12-HxCDD 478	75.5	85.6	82.5	80.8
13C12-HpCDF 789	70.2	75.8	82.9	74.0
Other Standards Percent Recovery Summary (% Rec)				
13C12-HxCDF 789	73.7	80.6	74.7	77.5
13C12-HxCDF 234	74.8	86.3	81.8	80.8
Internal Standards Percent Recovery Summary (% Rec)				
13C12-2378-TCDF	90.4	97.0	80.3	82.2
13C12-2378-TCDD	88.6	94.0	78.4	82.3

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Data File	W010205	W010206	W010207	W010208
Sample ID	607	608	609	610
Units	ng	ng	ng	ng
Extraction Date	01/14/2002	01/14/2002	01/14/2002	01/14/2002
Analysis Date	01/16/2002	01/16/2002	01/16/2002	01/16/2002
Instrument	W	W	W	W
Matrix	WIPE	WIPE	WIPE	WIPE
Extraction Type				

Internal Standards	Percent Recovery	Summary (% Rec)		
13C12-PeCDF 123	102	108	91.4	91.1
13C12-PeCDD 123	127	118	96.4	90.8
13C12-HxCDF 678	72.0	92.1	75.6	76.9
13C12-HxCDD 678	75.7	87.7	86.2	83.3
13C12-HpCDF 678	58.0	76.3	59.8	59.0
13C12-HpCDD 678	77.8	83.1	90.8	84.8
13C12-OCDD	63.1	67.0	81.9	65.8

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Sample File	W010209	W010210	W010211	S020236
Sample ID	611	612	613	TLI LCS
Units	ng	ng	ng	ng
Extraction Date	01/14/2002	01/14/2002	01/14/2002	01/14/2002
Analysis Date	01/16/2002	01/16/2002	01/16/2002	01/16/2002
Instrument	W	W	W	S
Matrix	WIPE	WIPE	WIPE	GAUZE
Extraction Type				
=====				
Analytes				
2378-TCDD	(0.01) JB	0.03 B	0.13 B	0.36
12378-PeCDD	0.05 J	0.10 J	0.39	1.7
123478-HxCDD	0.04 J	0.05 J	0.24	1.7
123678-HxCDD	(0.06) J	0.11	0.42	1.8
123789-HxCDD	0.11	{0.15}	0.69	1.7
1234678-HpCDD	0.41	0.57	1.9	1.7
OCDD	1.3	3.4	4.0	4.2
2378-TCDF	0.40	1.2	4.9	0.40
12378-PeCDF	0.10 J	{0.16} X	{0.81} X	1.9
23478-PeCDF	0.12	0.23	0.98	1.9
123478-HxCDF	0.29	0.37	1.7	1.6
123678-HxCDF	0.12	0.13	0.65	1.8
234678-HxCDF	0.11	0.24	0.72	1.9
123789-HxCDF	0.07 J	0.08 J	{0.21} X	1.9
1234678-HpCDF	0.38	0.46	2.1	2.2
1234789-HpCDF	(0.02)	{0.08} J	0.33	2.5
OCDF	0.11 J	{0.23}	1.1	3.2
TOTAL TCDD	3.1	6.1	40.0 E	
TOTAL PeCDD	3.5	5.0	29.5	
TOTAL HxCDD	2.8	3.2	17.0	
TOTAL HpCDD	0.99	1.3	4.5	
TOTAL TCDF	2.5	5.4	27.2	
TOTAL PeCDF	2.1	2.3 X	14.0	
TOTAL HxCDF	1.3	1.3	6.5	
TOTAL HpCDF	0.38	0.46	3.1	
Other Standards Percent Recovery Summary (% Rec)				
37C1-TCDD	84.6	62.8	66.8	61.6
Other Standards Percent Recovery Summary (% Rec)				
13C12-PeCDF 234	94.1	74.9	78.4	65.1
13C12-HxCDF 478	88.5	38.5 V	60.2	52.7
13C12-HxCDD 478	81.2	57.0	59.3	76.7
13C12-HpCDF 789	74.0	52.7	54.5	65.0
Other Standards Percent Recovery Summary (% Rec)				
13C12-HxCDF 789	79.7	56.1	55.0	56.8
13C12-HxCDF 234	86.3	60.1	59.5	59.7
Internal Standards Percent Recovery Summary (% Rec)				
13C12-2378-TCDF	80.7	59.9	63.6	54.3
13C12-2378-TCDD	79.8	59.6	63.4	63.6

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Sample Results for Project 56392
Method MIT3 Analysis (DB-5)

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=====
Data File      W010209      W010210      W010211      S020236
Sample ID      611          612          613          TLI LCS

Units          ng          ng          ng          ng
Extraction Date 01/14/2002    01/14/2002    01/14/2002    01/14/2002
Analysis Date  01/16/2002    01/16/2002    01/16/2002    01/16/2002
Instrument      W          W          W          S
Matrix         WIPE        WIPE        WIPE        GAUZE
Extraction Type

=====
Internal Standards Percent Recovery Summary (% Rec)
13C12-PeCDF 123      86.8      69.3      75.8      61.8
13C12-PeCDD 123      86.4      73.1      79.6      71.9
13C12-HxCDF 678      88.4      42.2      62.0      62.0
13C12-HxCDD 678      88.6      58.0      62.1      84.8
13C12-HpCDF 678      73.7      31.4      46.8      41.8
13C12-HpCDD 678      81.4      60.9      57.6      87.4
13C12-OCDD         65.2      48.2      44.9      81.3
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Data File	S020237
Sample ID	TLI LCSD

Units	ng
Extraction Date	01/14/2002
Analysis Date	01/16/2002
Instrument	S
Matrix	GAUZE
Extraction Type	

=====

Analytes	
2378-TCDD	0.38
12378-PeCDD	1.7
123478-HxCDD	2.0
123678-HxCDD	2.0
123789-HxCDD	2.0
1234678-HpCDD	1.9
OCDD	4.3
2378-TCDF	0.41
12378-PeCDF	2.0
23478-PeCDF	2.0
123478-HxCDF	1.7
123678-HxCDF	1.9
234678-HxCDF	2.1
123789-HxCDF	2.1
1234678-HpCDF	2.2
1234789-HpCDF	2.6
OCDF	3.5

Other Standards Percent Recovery Summary (% Rec)

37C1-TCDD	65.5
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Other Standards Percent Recovery Summary (% Rec)

13C12-PeCDF 234	74.0
13C12-HxCDF 478	60.8
13C12-HxCDD 478	80.2
13C12-HpCDF 789	85.2

Other Standards Percent Recovery Summary (% Rec)

13C12-HxCDF 789	69.7
13C12-HxCDF 234	70.9

Internal Standards Percent Recovery Summary (% Rec)

13C12-2378-TCDF	57.5
13C12-2378-TCDD	67.0
13C12-PeCDF 123	67.4
13C12-PeCDD 123	86.1
13C12-HxCDF 678	69.5
13C12-HxCDD 678	86.1
13C12-HpCDF 678	56.2
13C12-HpCDD 678	104
13C12-OCDD	107

=====

{Estimated Maximum Possible Concentration}, (Detection Limit).

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 Method 8290X (DB-225)

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Data File	P020107	P020108	P020109	P020110
Sample ID	603	605	606	607
Units	ng	ng	ng	ng
Extraction Date	01/14/2002	01/14/2002	01/14/2002	01/14/2002
Analysis Date	01/16/2002	01/16/2002	01/16/2002	01/16/2002
Instrument	P	P	P	P
Matrix	WIPE	WIPE	WIPE	WIPE
Extraction Type				
=====				
Analytes				
2378-TCDF	0.20 B	0.04 B	1.3	0.25
Internal Standards Percent Recovery Summary (% Rec)				
13C12-2378-TCDF	73.7	64.2	84.0	88.7

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=====				
Meta File	P020111	P020112	P020113	P020117
Sample ID	608	609	610	611
Units	ng	ng	ng	ng
Extraction Date	01/14/2002	01/14/2002	01/14/2002	01/14/2002
Analysis Date	01/16/2002	01/17/2002	01/17/2002	01/17/2002
Instrument	P	P	P	P
Matrix	WIPE	WIPE	WIPE	WIPE
Extraction Type				
=====				
Analytes				
2378-TCDF	0.89	0.77	0.15 B	0.08 B
Internal Standards Percent Recovery Summary (% Rec)				
13C12-2378-TCDF	91.8	75.7	79.4	63.3

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Method 8290X (DB-225)

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Data File          P020118          P020119
Sample ID          612              613

Units              ng              ng
Extraction Date    01/14/2002       01/14/2002
Analysis Date      01/17/2002       01/17/2002
Instrument          P                P
Matrix             WIPE            WIPE
Extraction Type

=====
Analytes
2378-TCDF          0.18 B          0.64

Internal Standards Percent Recovery Summary (% Rec)
13C12-2378-TCDF    48.8              49.9
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