



Marchwood Scientific Services

Unit 4G Central Crescent,
Marchwood Industrial Park,
Marchwood,
Southampton, Hants,
SO40 4BJ

Tel: 02380-669126
Fax: 02380-669127

Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1243

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH 2 -7/4/06
Sample No: 106-1243
Order No:

Date of Receipt : 10/04/06
Date of Analysis : 27/04/06
Date of Report : 02/05/06
No of Samples in Batch : 19
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 270406

Test Method : 1122
Blank :
Sample Size : 0.5

expressed as ng / L

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	*	0.100	0.0001	0.0000	0.0010	85	
12378-PCDF	*	0.050	0.0001	0.0000	0.0010	81	
23478-PCDF	*	0.500	0.0005	0.0000	0.0010	69	
123478-HxCDF	*	0.100	0.0001	0.0000	0.0010	97	
123678-HxCDF	*	0.100	0.0001	0.0000	0.0010	96	
234678-HxCDF	*	0.100	0.0001	0.0000	0.0010	83	
123789-HxCDF	*	0.100	0.0001	0.0000	0.0010	86	
1234678-HpCDF	*	0.010	0.0000	0.0000	0.0010	74	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0010	63	
OCDF	*	0.001	0.0000	0.0000	0.0010		
2378-TCDD	*	1.000	0.0010	0.0000	0.0010	82	
12378-PCDD	*	0.500	0.0005	0.0000	0.0010	81	
123478-HxCDD	*	0.100	0.0001	0.0000	0.0010	82	
123678-HxCDD	*	0.100	0.0001	0.0000	0.0010	82	
123789-HxCDD	*	0.100	0.0001	0.0000	0.0010		
1234678-HpCDD	*	0.010	0.0000	0.0000	0.0010	67	
OCDD	*	0.001	0.0000	0.0000	0.0020	48	
TEQ (Nato)			0.0029	0.0000			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : K Pettit
Position : Technical Manager

Signature of Analyst :





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Tel: 02380-669126
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Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1244

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH 11
Sample No: 106-1244
Order No:

Date of Receipt : 10/04/06
Date of Analysis : 27/04/06
Date of Report : 02/05/06
No of Samples in Batch : 19
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 270406

Test Method : 1122
Blank :
Sample Size : 0.5


expressed as ng / L

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	*	0.100	0.0001	0.0000	0.0010	82	
12378-PCDF	*	0.050	0.0001	0.0000	0.0010	79	
23478-PCDF	*	0.500	0.0005	0.0000	0.0010	69	
123478-HxCDF	*	0.100	0.0001	0.0000	0.0010	100	
123678-HxCDF	*	0.100	0.0001	0.0000	0.0010	96	
234678-HxCDF	*	0.100	0.0001	0.0000	0.0010	86	
123789-HxCDF	*	0.100	0.0001	0.0000	0.0010	85	
1234678-HpCDF	*	0.010	0.0000	0.0000	0.0010	76	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0010	66	
OCDF	*	0.001	0.0000	0.0000	0.0010		
2378-TCDD	*	1.000	0.0010	0.0000	0.0010	80	
12378-PCDD	*	0.500	0.0005	0.0000	0.0010	80	
123478-HxCDD	*	0.100	0.0001	0.0000	0.0010	83	
123678-HxCDD	*	0.100	0.0001	0.0000	0.0010	83	
123789-HxCDD	*	0.100	0.0001	0.0000	0.0010		
1234678-HpCDD	*	0.010	0.0000	0.0000	0.0010	67	
OCDD	0.0146	0.001	0.0000	0.0000	0.0020	50	
TEQ (Nato)			0.0029	0.0000			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : K Pettit
Position : Technical Manager

Signature of Analyst : 





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Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1245

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH 11
Sample No: 106-1245
Order No:

Date of Receipt : 10/04/06
Date of Analysis : 27/04/06
Date of Report : 02/05/06
No of Samples in Batch : 19
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 270406

Test Method : 1122
Blank :
Sample Size : 0.5

expressed as ng / L

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	*	0.100	0.0001	0.0000	0.0010	79	
12378-PCDF	*	0.050	0.0001	0.0000	0.0010	77	
23478-PCDF	*	0.500	0.0005	0.0000	0.0010	78	
123478-HxCDF	*	0.100	0.0001	0.0000	0.0010	85	
123678-HxCDF	*	0.100	0.0001	0.0000	0.0010	83	
234678-HxCDF	*	0.100	0.0001	0.0000	0.0010	85	
123789-HxCDF	*	0.100	0.0001	0.0000	0.0010	95	
1234678-HpCDF	*	0.010	0.0000	0.0000	0.0010	96	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0010	97	
OCDF	*	0.001	0.0000	0.0000	0.0010		
2378-TCDD	*	1.000	0.0010	0.0000	0.0010	83	
12378-PCDD	*	0.500	0.0005	0.0000	0.0010	85	
123478-HxCDD	*	0.100	0.0001	0.0000	0.0010	89	
123678-HxCDD	*	0.100	0.0001	0.0000	0.0010	88	
123789-HxCDD	*	0.100	0.0001	0.0000	0.0010		
1234678-HpCDD	*	0.010	0.0000	0.0000	0.0010	95	
OCDD	*	0.001	0.0000	0.0000	0.0010	93	
TEQ (Nato)			0.0029	0.0000			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : K Pettit
Position : Technical Manager

Signature of Analyst : 





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Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1257

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH 11D
Sample No: 106-1257
Order No:

Date of Receipt : 10/04/06
Date of Analysis : 27/04/06
Date of Report : 02/05/06
No of Samples in Batch : 19
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 270406

Test Method : 1122
Blank :
Sample Size : 0.5

expressed as ng / L

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	*	0.100	0.0001	0.0000	0.0010	81	
12378-PCDF	*	0.050	0.0001	0.0000	0.0010	85	
23478-PCDF	*	0.500	0.0005	0.0000	0.0010	79	
123478-HxCDF	*	0.100	0.0001	0.0000	0.0010	88	
123678-HxCDF	*	0.100	0.0001	0.0000	0.0010	87	
234678-HxCDF	*	0.100	0.0001	0.0000	0.0010	85	
123789-HxCDF	*	0.100	0.0001	0.0000	0.0010	96	
1234678-HpCDF	*	0.010	0.0000	0.0000	0.0010	88	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0010	86	
OCDF	*	0.001	0.0000	0.0000	0.0010		
2378-TCDD	*	1.000	0.0010	0.0000	0.0010	84	
12378-PCDD	*	0.500	0.0005	0.0000	0.0010	86	
123478-HxCDD	*	0.100	0.0001	0.0000	0.0010	87	
123678-HxCDD	*	0.100	0.0001	0.0000	0.0010	88	
123789-HxCDD	*	0.100	0.0001	0.0000	0.0010		
1234678-HpCDD	*	0.010	0.0000	0.0000	0.0010	86	
OCDD	0.0013	0.001	0.0000	0.0000	0.0010	79	
TEQ (Nato)			0.0029	0.0000			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : K Pettit
Position : Technical Manager

Signature of Analyst : 





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Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1246

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH 27
Sample No: 106-1246
Order No:

Date of Receipt : 10/04/06
Date of Analysis : 27/04/06
Date of Report : 02/05/06
No of Samples in Batch : 19
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 270406

Test Method : 1122
Blank :
Sample Size : 0.5

expressed as ng / L

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	*	0.100	0.0001	0.0000	0.0010	77	
12378-PCDF	*	0.050	0.0001	0.0000	0.0010	81	
23478-PCDF	*	0.500	0.0005	0.0000	0.0010	75	
123478-HxCDF	*	0.100	0.0001	0.0000	0.0010	87	
123678-HxCDF	*	0.100	0.0001	0.0000	0.0010	86	
234678-HxCDF	*	0.100	0.0001	0.0000	0.0010	83	
123789-HxCDF	*	0.100	0.0001	0.0000	0.0010	91	
1234678-HpCDF	*	0.010	0.0000	0.0000	0.0010	94	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0010	97	
OCDF	*	0.001	0.0000	0.0000	0.0010		
2378-TCDD	*	1.000	0.0010	0.0000	0.0010	83	
12378-PCDD	*	0.500	0.0005	0.0000	0.0010	80	
123478-HxCDD	*	0.100	0.0001	0.0000	0.0010	91	
123678-HxCDD	*	0.100	0.0001	0.0000	0.0010	91	
123789-HxCDD	*	0.100	0.0001	0.0000	0.0010		
1234678-HpCDD	*	0.010	0.0000	0.0000	0.0010	97	
OCDD	*	0.001	0.0000	0.0000	0.0020	98	
TEQ (Nato)			0.0029	0.0000			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : K Pettit
Position : Technical Manager

Signature of Analyst :





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Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1247

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH 34
Sample No: 106-1247
Order No:

Date of Receipt : 10/04/06
Date of Analysis : 27/04/06
Date of Report : 02/05/06
No of Samples in Batch : 19
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 270406

Test Method : 1122
Blank :
Sample Size : 0.5

expressed as ng / L

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	*	0.100	0.0001	0.0000	0.0010	76	
12378-PCDF	*	0.050	0.0001	0.0000	0.0010	81	
23478-PCDF	*	0.500	0.0005	0.0000	0.0010	78	
123478-HxCDF	*	0.100	0.0001	0.0000	0.0010	87	
123678-HxCDF	*	0.100	0.0001	0.0000	0.0010	85	
234678-HxCDF	*	0.100	0.0001	0.0000	0.0010	85	
123789-HxCDF	*	0.100	0.0001	0.0000	0.0010	95	
1234678-HpCDF	*	0.010	0.0000	0.0000	0.0010	96	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0010	97	
OCDF	*	0.001	0.0000	0.0000	0.0010		
2378-TCDD	*	1.000	0.0010	0.0000	0.0010	80	
12378-PCDD	*	0.500	0.0005	0.0000	0.0010	84	
123478-HxCDD	*	0.100	0.0001	0.0000	0.0010	90	
123678-HxCDD	*	0.100	0.0001	0.0000	0.0010	89	
123789-HxCDD	*	0.100	0.0001	0.0000	0.0010		
1234678-HpCDD	0.0036	0.010	0.0000	0.0000	0.0010	97	
OCDD	0.0088	0.001	0.0000	0.0000	0.0010	99	
TEQ (Nato)			0.0029	0.0000			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : K Pettit
Position : Technical Manager

Signature of Analyst :





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Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1248

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH 40
Sample No: 106-1248
Order No:

Date of Receipt : 10/04/06
Date of Analysis : 27/04/06
Date of Report : 02/05/06
No of Samples in Batch : 19
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 270406

Test Method : 1122
Blank :
Sample Size : 0.5

expressed as ng / L

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	*	0.100	0.0001	0.0000	0.0010	80	
12378-PCDF	*	0.050	0.0001	0.0000	0.0010	84	
23478-PCDF	*	0.500	0.0005	0.0000	0.0010	80	
123478-HxCDF	*	0.100	0.0001	0.0000	0.0010	90	
123678-HxCDF	*	0.100	0.0001	0.0000	0.0010	88	
234678-HxCDF	*	0.100	0.0001	0.0000	0.0010	89	
123789-HxCDF	*	0.100	0.0001	0.0000	0.0010	98	
1234678-HpCDF	*	0.010	0.0000	0.0000	0.0010	93	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0010	104	
OCDF	*	0.001	0.0000	0.0000	0.0010		
2378-TCDD	*	1.000	0.0010	0.0000	0.0010	77	
12378-PCDD	*	0.500	0.0005	0.0000	0.0010	86	
123478-HxCDD	*	0.100	0.0001	0.0000	0.0010	94	
123678-HxCDD	*	0.100	0.0001	0.0000	0.0010	94	
123789-HxCDD	*	0.100	0.0001	0.0000	0.0010		
1234678-HpCDD	*	0.010	0.0000	0.0000	0.0010	102	
OCDD	*	0.001	0.0000	0.0000	0.0010	104	
TEQ (Nato)			0.0029	0.0000			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : K Pettit
Position : Technical Manager

Signature of Analyst :





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Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1249

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH 51
Sample No: 106-1249
Order No:

Date of Receipt : 10/04/06
Date of Analysis : 27/04/06
Date of Report : 02/05/06
No of Samples in Batch : 19
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 270406

Test Method : 1122
Blank :
Sample Size : 0.5

expressed as ng / L

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	*	0.100	0.0001	0.0000	0.0010	78	
12378-PCDF	*	0.050	0.0001	0.0000	0.0010	79	
23478-PCDF	*	0.500	0.0005	0.0000	0.0010	66	
123478-HxCDF	*	0.100	0.0001	0.0000	0.0010	86	
123678-HxCDF	*	0.100	0.0001	0.0000	0.0010	83	
234678-HxCDF	*	0.100	0.0001	0.0000	0.0010	84	
123789-HxCDF	*	0.100	0.0001	0.0000	0.0010	88	
1234678-HpCDF	0.0122	0.010	0.0001	0.0001	0.0010	91	
1234789-HpCDF	0.0000	0.010	0.0000	0.0000	0.0010	88	
OCDF	0.0772	0.001	0.0001	0.0001	0.0010		
2378-TCDD	*	1.000	0.0010	0.0000	0.0010	84	
12378-PCDD	*	0.500	0.0005	0.0000	0.0010	79	
123478-HxCDD	*	0.100	0.0001	0.0000	0.0010	90	
123678-HxCDD	*	0.100	0.0001	0.0000	0.0010	89	
123789-HxCDD	*	0.100	0.0001	0.0000	0.0010		
1234678-HpCDD	0.0708	0.010	0.0007	0.0007	0.0010	91	
OCDD	0.6247	0.001	0.0006	0.0006	0.0020	87	
TEQ (Nato)			0.0044	0.0015			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : K Pettit
Position : Technical Manager

Signature of Analyst :





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Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1250

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH 56
Sample No: 106-1250
Order No:

Date of Receipt : 10/04/06
Date of Analysis : 27/04/06
Date of Report : 02/05/06
No of Samples in Batch : 19
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 270406

Test Method : 1122
Blank :
Sample Size : 0.5

expressed as ng / L

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	*	0.100	0.0001	0.0000	0.0010	81	
12378-PCDF	*	0.050	0.0001	0.0000	0.0010	82	
23478-PCDF	*	0.500	0.0005	0.0000	0.0010	77	
123478-HxCDF	*	0.100	0.0001	0.0000	0.0010	94	
123678-HxCDF	*	0.100	0.0001	0.0000	0.0010	92	
234678-HxCDF	*	0.100	0.0001	0.0000	0.0010	88	
123789-HxCDF	*	0.100	0.0001	0.0000	0.0010	100	
1234678-HpCDF	*	0.010	0.0000	0.0000	0.0010	100	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0010	96	
OCDF	*	0.001	0.0000	0.0000	0.0010		
2378-TCDD	*	1.000	0.0010	0.0000	0.0010	86	
12378-PCDD	*	0.500	0.0005	0.0000	0.0010	83	
123478-HxCDD	*	0.100	0.0001	0.0000	0.0010	95	
123678-HxCDD	*	0.100	0.0001	0.0000	0.0010	96	
123789-HxCDD	*	0.100	0.0001	0.0000	0.0010		
1234678-HpCDD	*	0.010	0.0000	0.0000	0.0010	94	
OCDD	0.0118	0.001	0.0000	0.0000	0.0010	88	
TEQ (Nato)			0.0029	0.0000			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : K Pettit
Position : Technical Manager

Signature of Analyst :





Marchwood Scientific Services

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SO40 4BJ

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Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1251

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH 56D
Sample No: 106-1251
Order No:

Date of Receipt : 10/04/06
Date of Analysis : 27/04/06
Date of Report : 02/05/06
No of Samples in Batch : 19
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 270406

Test Method : 1122
Blank :
Sample Size : 0.5

expressed as ng / L

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	*	0.100	0.0001	0.0000	0.0010	78	
12378-PCDF	*	0.050	0.0001	0.0000	0.0010	82	
23478-PCDF	*	0.500	0.0005	0.0000	0.0010	79	
123478-HxCDF	*	0.100	0.0001	0.0000	0.0010	88	
123678-HxCDF	*	0.100	0.0001	0.0000	0.0010	87	
234678-HxCDF	*	0.100	0.0001	0.0000	0.0010	86	
123789-HxCDF	*	0.100	0.0001	0.0000	0.0010	101	
1234678-HpCDF	0.0041	0.010	0.0000	0.0000	0.0010	104	
1234789-HpCDF	0.0000	0.010	0.0000	0.0000	0.0010	104	
OCDF	0.0055	0.001	0.0000	0.0000	0.0010		
2378-TCDD	*	1.000	0.0010	0.0000	0.0010	83	
12378-PCDD	*	0.500	0.0005	0.0000	0.0010	85	
123478-HxCDD	*	0.100	0.0001	0.0000	0.0010	92	
123678-HxCDD	*	0.100	0.0001	0.0000	0.0010	92	
123789-HxCDD	*	0.100	0.0001	0.0000	0.0010		
1234678-HpCDD	0.0035	0.010	0.0000	0.0000	0.0010	102	
OCDD	0.0336	0.001	0.0000	0.0000	0.0010	106	
TEQ (Nato)			0.0030	0.0001			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : K Pettit
Position : Technical Manager

Signature of Analyst :





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Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1252

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH 64
Sample No: 106-1252
Order No:

Date of Receipt : 10/04/06
Date of Analysis : 27/04/06
Date of Report : 02/05/06
No of Samples in Batch : 19
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 270406

Test Method : 1122
Blank :
Sample Size : 0.5


expressed as ng / L

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	*	0.100	0.0001	0.0000	0.0010	82	
12378-PCDF	*	0.050	0.0001	0.0000	0.0010	80	
23478-PCDF	*	0.500	0.0005	0.0000	0.0010	73	
123478-HxCDF	*	0.100	0.0001	0.0000	0.0010	87	
123678-HxCDF	*	0.100	0.0001	0.0000	0.0010	85	
234678-HxCDF	*	0.100	0.0001	0.0000	0.0010	87	
123789-HxCDF	*	0.100	0.0001	0.0000	0.0010	99	
1234678-HpCDF	*	0.010	0.0000	0.0000	0.0010	101	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0010	101	
OCDF	*	0.001	0.0000	0.0000	0.0010		
2378-TCDD	*	1.000	0.0010	0.0000	0.0010	91	
12378-PCDD	*	0.500	0.0005	0.0000	0.0010	80	
123478-HxCDD	*	0.100	0.0001	0.0000	0.0010	94	
123678-HxCDD	*	0.100	0.0001	0.0000	0.0010	95	
123789-HxCDD	*	0.100	0.0001	0.0000	0.0010		
1234678-HpCDD	0.0032	0.010	0.0000	0.0000	0.0010	108	
OCDD	0.0012	0.001	0.0000	0.0000	0.0010	109	
TEQ (Nato)			0.0029	0.0000			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected Congeners at Detection Limit
TEQ² Concentration of Non Detected Congeners at Zero

Name of Analyst : K Pettit
Position : Technical Manager

Signature of Analyst : 





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Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1253

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH64 D
Sample No: 106-1253
Order No:

Date of Receipt : 10/04/06
Date of Analysis : 27/04/06
Date of Report : 02/05/06
No of Samples in Batch : 19
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 270406

Test Method : 1122
Blank :
Sample Size : 0.5

expressed as ng / L

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	*	0.100	0.0001	0.0000	0.0010	77	
12378-PCDF	*	0.050	0.0001	0.0000	0.0010	83	
23478-PCDF	*	0.500	0.0005	0.0000	0.0010	77	
123478-HxCDF	*	0.100	0.0001	0.0000	0.0010	86	
123678-HxCDF	*	0.100	0.0001	0.0000	0.0010	83	
234678-HxCDF	*	0.100	0.0001	0.0000	0.0010	84	
123789-HxCDF	*	0.100	0.0001	0.0000	0.0010	90	
1234678-HpCDF	*	0.010	0.0000	0.0000	0.0010	93	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0010	94	
OCDF	*	0.001	0.0000	0.0000	0.0010		
2378-TCDD	*	1.000	0.0010	0.0000	0.0010	81	
12378-PCDD	*	0.500	0.0005	0.0000	0.0010	84	
123478-HxCDD	*	0.100	0.0001	0.0000	0.0010	88	
123678-HxCDD	*	0.100	0.0001	0.0000	0.0010	89	
123789-HxCDD	*	0.100	0.0001	0.0000	0.0010		
1234678-HpCDD	*	0.010	0.0000	0.0000	0.0010	92	
OCDD	0.0069	0.001	0.0000	0.0000	0.0010	92	
TEQ (Nato)			0.0029	0.0000			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : K Pettit
Position : Technical Manager

Signature of Analyst :





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Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1254

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH 72
Sample No: 106-1254
Order No:

Date of Receipt : 10/04/06
Date of Analysis : 27/04/06
Date of Report : 02/05/06
No of Samples in Batch : 19
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 270406

Test Method : 1122
Blank :
Sample Size : 0.5

expressed as ng / L

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	*	0.100	0.0001	0.0000	0.0010	72	
12378-PCDF	*	0.050	0.0001	0.0000	0.0010	76	
23478-PCDF	*	0.500	0.0005	0.0000	0.0010	75	
123478-HxCDF	*	0.100	0.0001	0.0000	0.0010	88	
123678-HxCDF	*	0.100	0.0001	0.0000	0.0010	88	
234678-HxCDF	*	0.100	0.0001	0.0000	0.0010	86	
123789-HxCDF	*	0.100	0.0001	0.0000	0.0010	96	
1234678-HpCDF	*	0.010	0.0000	0.0000	0.0010	96	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0010	93	
OCDF	*	0.001	0.0000	0.0000	0.0010		
2378-TCDD	*	1.000	0.0010	0.0000	0.0010	76	
12378-PCDD	*	0.500	0.0005	0.0000	0.0010	80	
123478-HxCDD	*	0.100	0.0001	0.0000	0.0010	91	
123678-HxCDD	*	0.100	0.0001	0.0000	0.0010	93	
123789-HxCDD	*	0.100	0.0001	0.0000	0.0010		
1234678-HpCDD	*	0.010	0.0000	0.0000	0.0010	92	
OCDD	0.0057	0.001	0.0000	0.0000	0.0010	90	
TEQ (Nato)			0.0029	0.0000			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : K Pettit
Position : Technical Manager

Signature of Analyst :





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Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1256

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH 88
Sample No: 106-1256
Order No:

Date of Receipt : 10/04/06
Date of Analysis : 27/04/06
Date of Report : 02/05/06
No of Samples in Batch : 19
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 270406

Test Method : 1122
Blank :
Sample Size : 0.5

expressed as ng / L

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	*	0.100	0.0001	0.0000	0.0010	77	
12378-PCDF	*	0.050	0.0001	0.0000	0.0010	79	
23478-PCDF	*	0.500	0.0005	0.0000	0.0010	75	
123478-HxCDF	*	0.100	0.0001	0.0000	0.0010	85	
123678-HxCDF	*	0.100	0.0001	0.0000	0.0010	85	
234678-HxCDF	*	0.100	0.0001	0.0000	0.0010	83	
123789-HxCDF	*	0.100	0.0001	0.0000	0.0010	96	
1234678-HpCDF	*	0.010	0.0000	0.0000	0.0010	95	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0010	94	
OCDF	*	0.001	0.0000	0.0000	0.0010		
2378-TCDD	*	1.000	0.0010	0.0000	0.0010	80	
12378-PCDD	*	0.500	0.0005	0.0000	0.0010	81	
123478-HxCDD	*	0.100	0.0001	0.0000	0.0010	92	
123678-HxCDD	*	0.100	0.0001	0.0000	0.0010	91	
123789-HxCDD	*	0.100	0.0001	0.0000	0.0010		
1234678-HpCDD	*	0.010	0.0000	0.0000	0.0010	94	
OCDD	0.0023	0.001	0.0000	0.0000	0.0010	92	
TEQ (Nato)			0.0029	0.0000			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : K Pettit
Position : Technical Manager

Signature of Analyst :





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Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1258

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : GS 11
Sample No: 106-1258
Order No:

Date of Receipt : 10/04/06
Date of Analysis : 27/04/06
Date of Report : 02/05/06
No of Samples in Batch : 19
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 270406

Test Method : 1122
Blank :
Sample Size : 0.5

expressed as ng / L

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	*	0.100	0.0001	0.0000	0.0010	66	
12378-PCDF	*	0.050	0.0001	0.0000	0.0010	73	
23478-PCDF	*	0.500	0.0005	0.0000	0.0010	71	
123478-HxCDF	*	0.100	0.0001	0.0000	0.0010	83	
123678-HxCDF	*	0.100	0.0001	0.0000	0.0010	83	
234678-HxCDF	*	0.100	0.0001	0.0000	0.0010	80	
123789-HxCDF	*	0.100	0.0001	0.0000	0.0010	90	
1234678-HpCDF	*	0.010	0.0000	0.0000	0.0010	89	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0010	86	
OCDF	*	0.001	0.0000	0.0000	0.0010		
2378-TCDD	*	1.000	0.0010	0.0000	0.0010	75	
12378-PCDD	*	0.500	0.0005	0.0000	0.0010	75	
123478-HxCDD	*	0.100	0.0001	0.0000	0.0010	85	
123678-HxCDD	*	0.100	0.0001	0.0000	0.0010	84	
123789-HxCDD	*	0.100	0.0001	0.0000	0.0010		
1234678-HpCDD	*	0.010	0.0000	0.0000	0.0010	85	
OCDD	*	0.001	0.0000	0.0000	0.0010	82	
TEQ (Nato)			0.0029	0.0000			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : K Pettit
Position : Technical Manager

Signature of Analyst :





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Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1259

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : GS 11D
Sample No: 106-1259
Order No:

Date of Receipt : 10/04/06
Date of Analysis : 27/04/06
Date of Report : 02/05/06
No of Samples in Batch : 19
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 270406

Test Method : 1122
Blank :
Sample Size : 0.5

expressed as ng / L

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	*	0.100	0.0001	0.0000	0.0010	71	
12378-PCDF	*	0.050	0.0001	0.0000	0.0010	74	
23478-PCDF	*	0.500	0.0005	0.0000	0.0010	70	
123478-HxCDF	*	0.100	0.0001	0.0000	0.0010	82	
123678-HxCDF	*	0.100	0.0001	0.0000	0.0010	80	
234678-HxCDF	*	0.100	0.0001	0.0000	0.0010	81	
123789-HxCDF	*	0.100	0.0001	0.0000	0.0010	91	
1234678-HpCDF	*	0.010	0.0000	0.0000	0.0010	90	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0010	88	
OCDF	*	0.001	0.0000	0.0000	0.0010		
2378-TCDD	*	1.000	0.0010	0.0000	0.0010	74	
12378-PCDD	*	0.500	0.0005	0.0000	0.0010	75	
123478-HxCDD	*	0.100	0.0001	0.0000	0.0010	86	
123678-HxCDD	*	0.100	0.0001	0.0000	0.0010	85	
123789-HxCDD	*	0.100	0.0001	0.0000	0.0010		
1234678-HpCDD	*	0.010	0.0000	0.0000	0.0010	86	
OCDD	0.0041	0.001	0.0000	0.0000	0.0010	85	
TEQ (Nato)			0.0029	0.0000			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected Congeners at Detection Limit
TEQ² Concentration of Non Detected Congeners at Zero

Name of Analyst : K Pettit
Position : Technical Manager

Signature of Analyst :





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Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1260

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : GS 12
Sample No: 106-1260
Order No:

Date of Receipt : 10/04/06
Date of Analysis : 27/04/06
Date of Report : 02/05/06
No of Samples in Batch : 19
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 270406

Test Method : 1122
Blank :
Sample Size : 0.5

expressed as ng / L

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	*	0.100	0.0001	0.0000	0.0010	75	
12378-PCDF	*	0.050	0.0001	0.0000	0.0010	74	
23478-PCDF	*	0.500	0.0005	0.0000	0.0010	69	
123478-HxCDF	*	0.100	0.0001	0.0000	0.0010	86	
123678-HxCDF	*	0.100	0.0001	0.0000	0.0010	83	
234678-HxCDF	*	0.100	0.0001	0.0000	0.0010	79	
123789-HxCDF	*	0.100	0.0001	0.0000	0.0010	89	
1234678-HpCDF	*	0.010	0.0000	0.0000	0.0010	87	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0010	84	
OCDF	*	0.001	0.0000	0.0000	0.0010		
2378-TCDD	*	1.000	0.0010	0.0000	0.0010	78	
12378-PCDD	*	0.500	0.0005	0.0000	0.0010	75	
123478-HxCDD	*	0.100	0.0001	0.0000	0.0010	84	
123678-HxCDD	*	0.100	0.0001	0.0000	0.0010	86	
123789-HxCDD	*	0.100	0.0001	0.0000	0.0010		
1234678-HpCDD	*	0.010	0.0000	0.0000	0.0010	82	
OCDD	*	0.001	0.0000	0.0000	0.0010	77	
TEQ (Nato)			0.0029	0.0000			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : K Pettit
Position : Technical Manager

Signature of Analyst :





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Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1261

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : GS 13
Sample No: 106-1261
Order No:

Date of Receipt : 10/04/06
Date of Analysis : 27/04/06
Date of Report : 02/05/06
No of Samples in Batch : 19
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 270406

Test Method : 1122
Blank :
Sample Size : 0.5

expressed as ng / L

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	*	0.100	0.0001	0.0000	0.0010	77	
12378-PCDF	*	0.050	0.0001	0.0000	0.0010	83	
23478-PCDF	*	0.500	0.0005	0.0000	0.0010	78	
123478-HxCDF	*	0.100	0.0001	0.0000	0.0010	93	
123678-HxCDF	*	0.100	0.0001	0.0000	0.0010	91	
234678-HxCDF	*	0.100	0.0001	0.0000	0.0010	90	
123789-HxCDF	*	0.100	0.0001	0.0000	0.0010	100	
1234678-HpCDF	*	0.010	0.0000	0.0000	0.0010	97	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0010	96	
OCDF	*	0.001	0.0000	0.0000	0.0010		
2378-TCDD	*	1.000	0.0010	0.0000	0.0010	85	
12378-PCDD	*	0.500	0.0005	0.0000	0.0010	85	
123478-HxCDD	*	0.100	0.0001	0.0000	0.0010	95	
123678-HxCDD	*	0.100	0.0001	0.0000	0.0010	94	
123789-HxCDD	*	0.100	0.0001	0.0000	0.0010		
1234678-HpCDD	*	0.010	0.0000	0.0000	0.0010	98	
OCDD	*	0.001	0.0000	0.0000	0.0010	91	
TEQ (Nato)			0.0029	0.0000			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : K Pettit
Position : Technical Manager

Signature of Analyst :





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Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1262

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : Lagoon
Sample No: 106-1262
Order No:

Date of Receipt : 10/04/06
Date of Analysis : 27/04/06
Date of Report : 02/05/06
No of Samples in Batch : 19
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 270406

Test Method : 1122

expressed as ng / L

Sample Size : 0.5

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	*	0.100	0.0001	0.0000	0.0010	77	
12378-PCDF	*	0.050	0.0001	0.0000	0.0010	77	
23478-PCDF	*	0.500	0.0005	0.0000	0.0010	73	
123478-HxCDF	*	0.100	0.0001	0.0000	0.0010	85	
123678-HxCDF	*	0.100	0.0001	0.0000	0.0010	82	
234678-HxCDF	*	0.100	0.0001	0.0000	0.0010	83	
123789-HxCDF	*	0.100	0.0001	0.0000	0.0010	94	
1234678-HpCDF	0.0032	0.010	0.0000	0.0000	0.0010	94	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0010	93	
OCDF	0.0027	0.001	0.0000	0.0000	0.0010		
2378-TCDD	*	1.000	0.0010	0.0000	0.0010	82	
12378-PCDD	*	0.500	0.0005	0.0000	0.0010	79	
123478-HxCDD	*	0.100	0.0001	0.0000	0.0010	89	
123678-HxCDD	*	0.100	0.0001	0.0000	0.0010	91	
123789-HxCDD	*	0.100	0.0001	0.0000	0.0010		
1234678-HpCDD	0.0031	0.010	0.0000	0.0000	0.0010	88	
OCDD	0.0179	0.001	0.0000	0.0000	0.0010	86	
TEQ (Nato)			0.0029	0.0001			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : K Pettit
Position : Technical Manager

Signature of Analyst :





Marchwood Scientific Services

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Tel: 02380-669126

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Results for Determination of Dioxins & Furans

Client: Shanks plc
New Inn,
Pontypool,
Gwent,
S Wales

Testing Facility: Marchwood Scientific Services
Unit 4G
Central Crescent
Marchwood Industrial Park
Marchwood
Southampton
SO40 4BJ

Telephone: 02380 669126

Laboratory Reference: 106-1640 to 106-1642

Customer Reference: GW11,12,13

Sample Received: 15/05/06

Analysis Completed: 30/05/06

Approved by:

Name: Paul Silcock
Position: Laboratory Manager

Date: 30/05/06



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Tel: 02380-669126
Fax: 02380-669127

Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1640

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : GW11
Sample No: 106-1640
Order No:

Date of Receipt : 15/05/06
Date of Analysis : 22/05/06
Date of Report : 30/05/06
No of Samples in Batch : 3
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 160506

Test Method : 1122
Blank :
Sample Size : 10.1

expressed as ng / g

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	0.0008	0.100	0.0001	0.0001	0.0001	82	
12378-PCDF	0.0003	0.050	0.0000	0.0000	0.0001	91	
23478-PCDF	0.0005	0.500	0.0003	0.0003	0.0001	85	
123478-HxCDF	0.0005	0.100	0.0001	0.0001	0.0001	91	
123678-HxCDF	0.0004	0.100	0.0000	0.0000	0.0001	89	
234678-HxCDF	0.0004	0.100	0.0000	0.0000	0.0001	86	
123789-HxCDF	*	0.100	0.0000	0.0000	0.0001	88	
1234678-HpCDF	0.0033	0.010	0.0000	0.0000	0.0001	83	
1234789-HpCDF	0.0003	0.010	0.0000	0.0000	0.0002	73	
OCDF	0.0112	0.001	0.0000	0.0000	0.0003		
2378-TCDD	*	1.000	0.0001	0.0000	0.0001	85	
12378-PCDD	0.0003	0.500	0.0001	0.0001	0.0001	89	
123478-HxCDD	0.0003	0.100	0.0000	0.0000	0.0001	79	
123678-HxCDD	0.0007	0.100	0.0001	0.0001	0.0001	78	
123789-HxCDD	0.0005	0.100	0.0000	0.0000	0.0001		
1234678-HpCDD	0.0132	0.010	0.0001	0.0001	0.0002	73	
OCDD	0.1115	0.001	0.0001	0.0001	0.0003	60	
TEQ (Nato)			0.0012	0.0011			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : P Silcock
Position : Laboratory Manager

Signature of Analyst :





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Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1641

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : GW12
Sample No: 106-1641
Order No:

Date of Receipt : 15/05/06
Date of Analysis : 22/05/06
Date of Report : 30/05/06
No of Samples in Batch : 3
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 160506

Test Method : 1122
Blank :
Sample Size : 10.0

expressed as ng / g

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	0.0009	0.100	0.0001	0.0001	0.0002	91	
12378-PCDF	0.0004	0.050	0.0000	0.0000	0.0002	95	
23478-PCDF	0.0007	0.500	0.0004	0.0004	0.0002	85	
123478-HxCDF	0.0007	0.100	0.0001	0.0001	0.0001	103	
123678-HxCDF	0.0004	0.100	0.0000	0.0000	0.0001	99	
234678-HxCDF	0.0005	0.100	0.0000	0.0000	0.0001	94	
123789-HxCDF	0.0002	0.100	0.0000	0.0000	0.0001	89	
1234678-HpCDF	0.0042	0.010	0.0000	0.0000	0.0003	79	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0004	71	
OCDF	0.0105	0.001	0.0000	0.0000	0.0003		
2378-TCDD	*	1.000	0.0001	0.0000	0.0001	93	
12378-PCDD	*	0.500	0.0001	0.0000	0.0001	88	
123478-HxCDD	0.0002	0.100	0.0000	0.0000	0.0001	86	
123678-HxCDD	0.0006	0.100	0.0001	0.0001	0.0001	86	
123789-HxCDD	0.0004	0.100	0.0000	0.0000	0.0001		
1234678-HpCDD	0.0122	0.010	0.0001	0.0001	0.0002	70	
OCDD	0.1036	0.001	0.0001	0.0001	0.0003	53	
TEQ (Nato)			0.0012	0.0010			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : P Silcock
Position : Laboratory Manager

Signature of Analyst :





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Fax: 02380-669127

Name of Client : Shanks plc
Address : New Inn, Pontypool, Gwent, S Wales

Test Certificate No: 106-1642

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : GW13
Sample No: 106-1642
Order No:

Date of Receipt : 15/05/06
Date of Analysis : 22/05/06
Date of Report : 30/05/06
No of Samples in Batch : 3
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 160506

Test Method : 1122
Blank :
Sample Size : 10.1

expressed as ng / g

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	0.0015	0.100	0.0001	0.0001	0.0001	91	
12378-PCDF	0.0006	0.050	0.0000	0.0000	0.0001	103	
23478-PCDF	0.0010	0.500	0.0005	0.0005	0.0001	97	
123478-HxCDF	0.0011	0.100	0.0001	0.0001	0.0001	94	
123678-HxCDF	0.0009	0.100	0.0001	0.0001	0.0001	92	
234678-HxCDF	0.0012	0.100	0.0001	0.0001	0.0001	89	
123789-HxCDF	*	0.100	0.0000	0.0000	0.0001	93	
1234678-HpCDF	0.0101	0.010	0.0001	0.0001	0.0002	94	
1234789-HpCDF	0.0008	0.010	0.0000	0.0000	0.0003	91	
OCDF	0.0385	0.001	0.0000	0.0000	0.0002		
2378-TCDD	*	1.000	0.0002	0.0000	0.0002	93	
12378-PCDD	*	0.500	0.0001	0.0000	0.0002	100	
123478-HxCDD	0.0005	0.100	0.0001	0.0001	0.0001	91	
123678-HxCDD	0.0017	0.100	0.0002	0.0002	0.0001	82	
123789-HxCDD	0.0010	0.100	0.0001	0.0001	0.0001		
1234678-HpCDD	0.0340	0.010	0.0003	0.0003	0.0002	89	
OCDD	0.2973	0.001	0.0003	0.0003	0.0002	87	
TEQ (Nato)			0.0024	0.0021			10

* Isomer Not detected
TEQ Toxic Equivalent Value
TEF Toxic Equivalent Factor
Conc Concentration
DL Detection Value

TEQ¹ Concentration of Non Detected
Congeners at Detection Limit
TEQ² Concentration of Non Detected
Congeners at Zero

Name of Analyst : P Silcock
Position : Laboratory Manager

Signature of Analyst :

