



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: 105-2279

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH2
Sample No: 105-2279
Order No:

Date of Receipt : 05/10/05
Date of Analysis : 14/10/05
Date of Report : 17/10/05
No of Samples in Batch : 41
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 141005

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	0.0004	0.0000	0.0040	81	
12378-PCDF	*	0.050	0.0002	0.0000	0.0040	76	
23478-PCDF	*	0.500	0.0020	0.0000	0.0040	76	
123478-HxCDF	*	0.100	0.0004	0.0000	0.0040	104	
123678-HxCDF	*	0.100	0.0004	0.0000	0.0040	103	
234678-HxCDF	*	0.100	0.0004	0.0000	0.0040	81	
123789-HxCDF	*	0.100	0.0004	0.0000	0.0040	97	
1234678-HpCDF	*	0.010	0.0000	0.0000	0.0040	77	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0040	68	
OCDF	*	0.001	0.0000	0.0000	0.0040		
2378-TCDD	*	1.000	0.0040	0.0000	0.0040	102	
12378-PCDD	*	0.500	0.0020	0.0000	0.0040	84	
123478-HxCDD	*	0.100	0.0004	0.0000	0.0040	111	
123678-HxCDD	*	0.100	0.0004	0.0000	0.0040	105	
123789-HxCDD	*	0.100	0.0004	0.0000	0.0040		
1234678-HpCDD	*	0.010	0.0000	0.0000	0.0040	70	
OCDD	0.0460	0.001	0.0000	0.0000	0.0040	63	
TEQ (Nato)			0.0116	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

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: 105-2297

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH5
Sample No: 105-2297
Order No:

Date of Receipt : 05/10/05
Date of Analysis : 11/10/05
Date of Report : 17/10/05
No of Samples in Batch : 41
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 111005

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	0.0002	0.0000	0.0020	80	
12378-PCDF	*	0.050	0.0002	0.0000	0.0040	85	
23478-PCDF	*	0.500	0.0020	0.0000	0.0040	86	
123478-HxCDF	0.0102	0.100	0.0010	0.0010	0.0040	82	
123678-HxCDF	*	0.100	0.0004	0.0000	0.0040	81	
234678-HxCDF	*	0.100	0.0002	0.0000	0.0020	77	
123789-HxCDF	*	0.100	0.0004	0.0000	0.0040	74	
1234678-HpCDF	1.0172	0.010	0.0102	0.0102	0.0040	70	
1234789-HpCDF	0.0204	0.010	0.0002	0.0002	0.0040	66	
OCDF	2.8732	0.001	0.0029	0.0029	0.0040		
2378-TCDD	*	1.000	0.0060	0.0000	0.0060	54	
12378-PCDD	*	0.500	0.0030	0.0000	0.0060	115	
123478-HxCDD	*	0.100	0.0004	0.0000	0.0040	55	
123678-HxCDD	0.0404	0.100	0.0040	0.0040	0.0040	51	
123789-HxCDD	0.0040	0.100	0.0004	0.0004	0.0020		
1234678-HpCDD	2.3156	0.010	0.0232	0.0232	0.0080	52	
OCDD	40.5222	0.001	0.0405	0.0405	0.0160	57	
TEQ (Nato)			0.0952	0.0824			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

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: 105-2295

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH11
Sample No: 105-2295
Order No:

Date of Receipt : 05/10/05
Date of Analysis : 11/10/05
Date of Report : 17/10/05
No of Samples in Batch : 41
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 111005

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	0.0004	0.0000	0.0040	62	
12378-PCDF	*	0.050	0.0002	0.0000	0.0040	87	
23478-PCDF	*	0.500	0.0020	0.0000	0.0040	88	
123478-HxCDF	*	0.100	0.0002	0.0000	0.0020	64	
123678-HxCDF	*	0.100	0.0002	0.0000	0.0020	63	
234678-HxCDF	*	0.100	0.0002	0.0000	0.0020	59	
123789-HxCDF	*	0.100	0.0002	0.0000	0.0020	63	
1234678-HpCDF	0.1178	0.010	0.0012	0.0012	0.0040	60	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0040	64	
OCDF	0.1260	0.001	0.0001	0.0001	0.0080		
2378-TCDD	*	1.000	0.0060	0.0000	0.0060	58	
12378-PCDD	*	0.500	0.0040	0.0000	0.0080	76	
123478-HxCDD	*	0.100	0.0004	0.0000	0.0040	58	
123678-HxCDD	*	0.100	0.0004	0.0000	0.0040	55	
123789-HxCDD	*	0.100	0.0004	0.0000	0.0040		
1234678-HpCDD	0.2548	0.010	0.0025	0.0025	0.0060	51	
OCDD	2.6230	0.001	0.0026	0.0026	0.0160	50	
TEQ (Nato)			0.0211	0.0065			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

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: 105-2298

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH15
Sample No: 105-2298
Order No:

Date of Receipt : 05/10/05
Date of Analysis : 11/10/05
Date of Report : 17/10/05
No of Samples in Batch : 41
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 111005

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	0.0002	0.0000	0.0020	69	
12378-PCDF	*	0.050	0.0001	0.0000	0.0020	71	
23478-PCDF	0.0086	0.500	0.0043	0.0043	0.0020	77	
123478-HxCDF	0.1876	0.100	0.0188	0.0188	0.0020	66	
123678-HxCDF	0.5400	0.100	0.0540	0.0540	0.0020	65	
234678-HxCDF	0.0524	0.100	0.0052	0.0052	0.0020	68	
123789-HxCDF	0.0068	0.100	0.0007	0.0007	0.0020	74	
1234678-HpCDF	6.4352	0.010	0.0644	0.0644	0.0020	73	
1234789-HpCDF	0.1090	0.010	0.0011	0.0011	0.0020	68	
OCDF	2.0574	0.001	0.0021	0.0021	0.0020		
2378-TCDD	*	1.000	0.0020	0.0000	0.0020	58	
12378-PCDD	*	0.500	0.0010	0.0000	0.0020	63	
123478-HxCDD	0.0130	0.100	0.0013	0.0013	0.0020	68	
123678-HxCDD	0.0134	0.100	0.0013	0.0013	0.0020	67	
123789-HxCDD	*	0.100	0.0002	0.0000	0.0020		
1234678-HpCDD	4.1088	0.010	0.0411	0.0411	0.0020	54	
OCDD	87.6556	0.001	0.0877	0.0877	0.0020	58	
TEQ (Nato)			0.2854	0.2819			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

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: 105-2299

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH17
Sample No: 105-2299
Order No:

Date of Receipt : 05/10/05
Date of Analysis : 11/10/05
Date of Report : 17/10/05
No of Samples in Batch : 41
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 111005

Test Method : 1122
Blank :
Sample Size : 0.5

expressed as ng / l

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	0.1451	0.100	0.0145	0.0145	0.0100	58	
12378-PCDF	*	0.050	0.0005	0.0000	0.0100	60	
23478-PCDF	*	0.500	0.0050	0.0000	0.0100	62	
123478-HxCDF	0.1393	0.100	0.0139	0.0139	0.0100	63	
123678-HxCDF	0.3538	0.100	0.0354	0.0354	0.0100	60	
234678-HxCDF	*	0.100	0.0010	0.0000	0.0100	53	
123789-HxCDF	*	0.100	0.0010	0.0000	0.0100	54	
1234678-HpCDF	2.0149	0.010	0.0201	0.0201	0.0100	60	
1234789-HpCDF	*	0.010	0.0001	0.0000	0.0100	59	
OCDF	1.9703	0.001	0.0020	0.0020	0.0100		
2378-TCDD	*	1.000	0.0100	0.0000	0.0100	92	
12378-PCDD	*	0.500	0.0050	0.0000	0.0100	61	
123478-HxCDD	0.0547	0.100	0.0055	0.0055	0.0100	94	
123678-HxCDD	0.1620	0.100	0.0162	0.0162	0.0100	88	
123789-HxCDD	0.0581	0.100	0.0058	0.0058	0.0100		
1234678-HpCDD	3.0452	0.010	0.0305	0.0305	0.0100	70	
OCDD	39.8174	0.001	0.0398	0.0398	0.0100	69	
TEQ (Nato)			0.2063	0.1837			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

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: 105-2294

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH23
Sample No: 105-2294
Order No:

Date of Receipt : 05/10/05
Date of Analysis : 11/10/05
Date of Report : 17/10/05
No of Samples in Batch : 41
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 111005

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	0.0010	0.0000	0.0100	66	
12378-PCDF	*	0.050	0.0005	0.0000	0.0100	60	
23478-PCDF	*	0.500	0.0050	0.0000	0.0100	60	
123478-HxCDF	0.0652	0.100	0.0065	0.0065	0.0100	62	
123678-HxCDF	0.4546	0.100	0.0455	0.0455	0.0100	62	
234678-HxCDF	*	0.100	0.0010	0.0000	0.0100	54	
123789-HxCDF	*	0.100	0.0010	0.0000	0.0100	59	
1234678-HpCDF	6.3079	0.010	0.0631	0.0631	0.0100	55	
1234789-HpCDF	0.0943	0.010	0.0009	0.0009	0.0100	56	
OCDF	4.5979	0.001	0.0046	0.0046	0.0100		
2378-TCDD	*	1.000	0.0100	0.0000	0.0100	75	
12378-PCDD	*	0.500	0.0050	0.0000	0.0100	78	
123478-HxCDD	*	0.100	0.0010	0.0000	0.0100	86	
123678-HxCDD	0.1136	0.100	0.0114	0.0114	0.0100	80	
123789-HxCDD	0.0349	0.100	0.0035	0.0035	0.0100		
1234678-HpCDD	5.1317	0.010	0.0513	0.0513	0.0100	65	
OCDD	74.1220	0.001	0.0741	0.0741	0.0100	55	
TEQ (Nato)			0.2854	0.2609			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

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: 105-2301

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH24
Sample No: 105-2301
Order No:

Date of Receipt : 05/10/05
Date of Analysis : 19/10/05
Date of Report : 24/10/05
No of Samples in Batch : 41
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 191005

Test Method : 1122
Blank :
Sample Size : 0.5

expressed as ng / l

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	0.0157	0.100	0.0016	0.0016	0.0060	54	
12378-PCDF	0.1053	0.050	0.0053	0.0053	0.0060	62	
23478-PCDF	*	0.500	0.0030	0.0000	0.0060	59	
123478-HxCDF	*	0.100	0.0006	0.0000	0.0060	65	
123678-HxCDF	0.1166	0.100	0.0117	0.0117	0.0060	67	
234678-HxCDF	*	0.100	0.0006	0.0000	0.0060	58	
123789-HxCDF	*	0.100	0.0006	0.0000	0.0060	63	
1234678-HpCDF	1.5377	0.010	0.0154	0.0154	0.0060	61	
1234789-HpCDF	*	0.010	0.0001	0.0000	0.0060	54	
OCDF	0.8269	0.001	0.0008	0.0008	0.0060		
2378-TCDD	*	1.000	0.0060	0.0000	0.0060	86	
12378-PCDD	*	0.500	0.0030	0.0000	0.0060	86	
123478-HxCDD	*	0.100	0.0006	0.0000	0.0060	94	
123678-HxCDD	0.0333	0.100	0.0033	0.0033	0.0060	88	
123789-HxCDD	*	0.100	0.0006	0.0000	0.0060		
1234678-HpCDD	0.8975	0.010	0.0090	0.0090	0.0060	74	
OCDD	20.2487	0.001	0.0202	0.0202	0.0060	70	
TEQ (Nato)			0.0823	0.0673			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

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: 105-2289

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH27
Sample No: 105-2289
Order No:

Date of Receipt : 05/10/05
Date of Analysis : 11/10/05
Date of Report : 17/10/05
No of Samples in Batch : 41
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 111005

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	0.0006	0.0000	0.0060	42	
12378-PCDF	*	0.050	0.0004	0.0000	0.0080	85	
23478-PCDF	*	0.500	0.0040	0.0000	0.0080	91	
123478-HxCDF	0.0674	0.100	0.0067	0.0067	0.0080	68	
123678-HxCDF	*	0.100	0.0008	0.0000	0.0080	67	
234678-HxCDF	0.0128	0.100	0.0013	0.0013	0.0080	61	
123789-HxCDF	*	0.100	0.0008	0.0000	0.0080	50	
1234678-HpCDF	9.2338	0.010	0.0923	0.0923	0.0120	63	
1234789-HpCDF	0.1338	0.010	0.0013	0.0013	0.0160	65	
OCDF	30.8478	0.001	0.0308	0.0308	0.0200		
2378-TCDD	*	1.000	0.0120	0.0000	0.0120	58	
12378-PCDD	*	0.500	0.0060	0.0000	0.0120	67	
123478-HxCDD	0.0242	0.100	0.0024	0.0024	0.0120	60	
123678-HxCDD	0.2954	0.100	0.0295	0.0295	0.0120	57	
123789-HxCDD	0.0440	0.100	0.0044	0.0044	0.0080		
1234678-HpCDD	15.0130	0.010	0.1501	0.1501	0.0200	64	
OCDD	226.2010	0.001	0.2262	0.2262	0.0420	53	
TEQ (Nato)			0.5698	0.5452			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

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: 105-2291

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH28
Sample No: 105-2291
Order No:

Date of Receipt : 05/10/05
Date of Analysis : 11/10/05
Date of Report : 17/10/05
No of Samples in Batch : 41
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 111005

Test Method : 1122
Blank :
Sample Size : 0.5

expressed as ng / l

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	0.0046	0.100	0.0005	0.0005	0.0040	88	
12378-PCDF	0.0120	0.050	0.0006	0.0006	0.0060	70	
23478-PCDF	0.0133	0.500	0.0067	0.0067	0.0060	75	
123478-HxCDF	0.1020	0.100	0.0102	0.0102	0.0060	103	
123678-HxCDF	0.7513	0.100	0.0751	0.0751	0.0060	103	
234678-HxCDF	0.0171	0.100	0.0017	0.0017	0.0080	78	
123789-HxCDF	*	0.100	0.0008	0.0000	0.0080	84	
1234678-HpCDF	20.8364	0.010	0.2084	0.2084	0.0140	69	
1234789-HpCDF	0.2198	0.010	0.0022	0.0022	0.0200	57	
OCDF	35.2980	0.001	0.0353	0.0353	0.0160		
2378-TCDD	0.0217	1.000	0.0217	0.0217	0.0060	102	
12378-PCDD	0.0300	0.500	0.0150	0.0150	0.0100	81	
123478-HxCDD	0.0476	0.100	0.0048	0.0048	0.0100	92	
123678-HxCDD	0.4666	0.100	0.0467	0.0467	0.0080	82	
123789-HxCDD	0.0748	0.100	0.0075	0.0075	0.0080		
1234678-HpCDD	45.9690	0.010	0.4597	0.4597	0.0120	63	
OCDD	1017.6775	0.001	1.0177	1.0177	0.0460	57	
TEQ (Nato)			1.9144	1.9136			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

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: 105-2296

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH30
Sample No: 105-2296
Order No:

Date of Receipt : 05/10/05
Date of Analysis : 11/10/05
Date of Report : 17/10/05
No of Samples in Batch : 41
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 111005

Test Method : 1122

Blank :

Sample Size : 0.5

expressed as ng / l

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	0.1120	0.100	0.0112	0.0112	0.0100	55	
12378-PCDF	0.0120	0.050	0.0006	0.0006	0.0100	60	
23478-PCDF	0.2173	0.500	0.1087	0.1087	0.0100	61	
123478-HxCDF	0.2102	0.100	0.0210	0.0210	0.0100	64	
123678-HxCDF	0.8914	0.100	0.0891	0.0891	0.0100	64	
234678-HxCDF	0.0934	0.100	0.0093	0.0093	0.0100	55	
123789-HxCDF	*	0.100	0.0010	0.0000	0.0100	61	
1234678-HpCDF	17.2486	0.010	0.1725	0.1725	0.0100	57	
1234789-HpCDF	0.1165	0.010	0.0012	0.0012	0.0100	51	
OCDF	20.6858	0.001	0.0207	0.0207	0.0100		
2378-TCDD	0.0162	1.000	0.0162	0.0162	0.0100	82	
12378-PCDD	0.0077	0.500	0.0039	0.0039	0.0100	80	
123478-HxCDD	0.1024	0.100	0.0102	0.0102	0.0100	93	
123678-HxCDD	0.5882	0.100	0.0588	0.0588	0.0100	88	
123789-HxCDD	0.1093	0.100	0.0109	0.0109	0.0100		
1234678-HpCDD	20.4355	0.010	0.2044	0.2044	0.0100	72	
OCDD	241.9718	0.001	0.2420	0.2420	0.0100	66	
TEQ (Nato)			0.9817	0.9807			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

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: 105-2293

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH31
Sample No: 105-2293
Order No:

Date of Receipt : 05/10/05
Date of Analysis : 11/10/05
Date of Report : 17/10/05
No of Samples in Batch : 41
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 111005

Test Method : 1122
Blank :
Sample Size : 0.5


expressed as ng / l

Congener	Conc	TEFs	TEQ ¹	TEQ ²	DL	Rec %	Error %
2378-TCDF	0.0296	0.100	0.0030	0.0030	0.0100	60	
12378-PCDF	0.0000	0.050	0.0000	0.0000	0.0100	60	
23478-PCDF	0.0777	0.500	0.0389	0.0389	0.0100	63	
123478-HxCDF	0.2772	0.100	0.0277	0.0277	0.0100	69	
123678-HxCDF	1.8324	0.100	0.1832	0.1832	0.0100	68	
234678-HxCDF	0.0463	0.100	0.0046	0.0046	0.0100	59	
123789-HxCDF	0.0106	0.100	0.0011	0.0011	0.0100	67	
1234678-HpCDF	44.2075	0.010	0.4421	0.4421	0.0100	64	
1234789-HpCDF	0.5283	0.010	0.0053	0.0053	0.0100	58	
OCDF	57.6159	0.001	0.0576	0.0576	0.0100		
2378-TCDD	0.0000	1.000	0.0000	0.0000	0.0100	93	
12378-PCDD	0.0012	0.500	0.0006	0.0006	0.0100	82	
123478-HxCDD	0.0031	0.100	0.0003	0.0003	0.0100	96	
123678-HxCDD	0.7967	0.100	0.0797	0.0797	0.0100	94	
123789-HxCDD	0.1809	0.100	0.0181	0.0181	0.0100		
1234678-HpCDD	47.2931	0.010	0.4729	0.4729	0.0100	76	
OCDD	650.3545	0.001	0.6504	0.6504	0.0100	80	
TEQ (Nato)			1.9854	1.9854			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

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: 105-2307

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH34
Sample No: 105-2307
Order No:

Date of Receipt : 05/10/05
Date of Analysis : 19/10/05
Date of Report : 24/10/05
No of Samples in Batch : 41
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 191005

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	0.0004	0.0000	0.0040	67	
12378-PCDF	*	0.050	0.0002	0.0000	0.0040	83	
23478-PCDF	*	0.500	0.0020	0.0000	0.0040	82	
123478-HxCDF	*	0.100	0.0004	0.0000	0.0040	84	
123678-HxCDF	*	0.100	0.0004	0.0000	0.0040	87	
234678-HxCDF	*	0.100	0.0004	0.0000	0.0040	70	
123789-HxCDF	*	0.100	0.0004	0.0000	0.0040	0	
1234678-HpCDF	*	0.010	0.0000	0.0000	0.0040	70	
1234789-HpCDF	*	0.010	0.0000	0.0000	0.0040	68	
OCDF	*	0.001	0.0000	0.0000	0.0040		
2378-TCDD	*	1.000	0.0040	0.0000	0.0040	111	
12378-PCDD	*	0.500	0.0020	0.0000	0.0040	121	
123478-HxCDD	*	0.100	0.0004	0.0000	0.0040	117	
123678-HxCDD	*	0.100	0.0004	0.0000	0.0040	109	
123789-HxCDD	*	0.100	0.0004	0.0000	0.0040		
1234678-HpCDD	*	0.010	0.0000	0.0000	0.0040	94	
OCDD	*	0.001	0.0000	0.0000	0.0040	78	
TEQ (Nato)			0.0115	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

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: 105-2302

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH38
Sample No: 105-2302
Order No:

Date of Receipt : 05/10/05
Date of Analysis : 19/10/05
Date of Report : 24/10/05
No of Samples in Batch : 41
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 191005

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	0.0004	0.0000	0.0040	94	
12378-PCDF	*	0.050	0.0002	0.0000	0.0040	84	
23478-PCDF	*	0.500	0.0020	0.0000	0.0040	83	
123478-HxCDF	*	0.100	0.0004	0.0000	0.0040	104	
123678-HxCDF	*	0.100	0.0004	0.0000	0.0040	110	
234678-HxCDF	*	0.100	0.0004	0.0000	0.0040	82	
123789-HxCDF	*	0.100	0.0004	0.0000	0.0040	94	
1234678-HpCDF	0.3000	0.010	0.0030	0.0030	0.0040	72	
1234789-HpCDF	0.0060	0.010	0.0001	0.0001	0.0040	62	
OCDF	0.2220	0.001	0.0002	0.0002	0.0040		
2378-TCDD	*	1.000	0.0040	0.0000	0.0040	123	
12378-PCDD	*	0.500	0.0020	0.0000	0.0040	85	
123478-HxCDD	*	0.100	0.0004	0.0000	0.0040	94	
123678-HxCDD	*	0.100	0.0004	0.0000	0.0040	83	
123789-HxCDD	*	0.100	0.0004	0.0000	0.0040		
1234678-HpCDD	0.3000	0.010	0.0030	0.0030	0.0040	67	
OCDD	3.6000	0.001	0.0036	0.0036	0.0040	54	
TEQ (Nato)			0.0213	0.0099			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

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: 105-2290

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH40
Sample No: 105-2290
Order No:

Date of Receipt : 05/10/05
Date of Analysis : 11/10/05
Date of Report : 17/10/05
No of Samples in Batch : 41
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 111005

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	0.0006	0.0000	0.0060	64	
12378-PCDF	*	0.050	0.0003	0.0000	0.0060	68	
23478-PCDF	*	0.500	0.0040	0.0000	0.0080	68	
123478-HxCDF	0.0938	0.100	0.0094	0.0094	0.0080	64	
123678-HxCDF	0.5292	0.100	0.0529	0.0529	0.0080	63	
234678-HxCDF	0.0246	0.100	0.0025	0.0025	0.0080	52	
123789-HxCDF	0.0148	0.100	0.0015	0.0015	0.0100	51	
1234678-HpCDF	14.0058	0.010	0.1401	0.1401	0.0060	67	
1234789-HpCDF	0.1776	0.010	0.0018	0.0018	0.0100	59	
OCDF	17.6370	0.001	0.0176	0.0176	0.0120		
2378-TCDD	*	1.000	0.0180	0.0000	0.0180	60	
12378-PCDD	*	0.500	0.0050	0.0000	0.0100	82	
123478-HxCDD	0.0542	0.100	0.0054	0.0054	0.0060	56	
123678-HxCDD	0.4294	0.100	0.0429	0.0429	0.0080	53	
123789-HxCDD	0.1046	0.100	0.0105	0.0105	0.0040		
1234678-HpCDD	18.1298	0.010	0.1813	0.1813	0.0180	57	
OCDD	245.2022	0.001	0.2452	0.2452	0.0240	61	
TEQ (Nato)			0.7389	0.7110			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

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: 105-2292

ANALYSIS OF PCDDs and PCDFs

Job Reference: Shanks - Pontypool
Sample Identifier : BH46
Sample No: 105-2292
Order No:

Date of Receipt : 05/10/05
Date of Analysis : 11/10/05
Date of Report : 17/10/05
No of Samples in Batch : 41
Sample Condition : normal

Instrument : Micromass Ultima NT
GC Column : DB5
Calibration File : 111005

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	0.0010	0.0000	0.0100	56	
12378-PCDF	0.0390	0.050	0.0020	0.0020	0.0100	61	
23478-PCDF	*	0.500	0.0050	0.0000	0.0100	68	
123478-HxCDF	*	0.100	0.0014	0.0000	0.0140	70	
123678-HxCDF	0.2448	0.100	0.0245	0.0245	0.0120	69	
234678-HxCDF	*	0.100	0.0012	0.0000	0.0120	59	
123789-HxCDF	*	0.100	0.0014	0.0000	0.0140	66	
1234678-HpCDF	4.9052	0.010	0.0491	0.0491	0.0180	57	
1234789-HpCDF	0.0514	0.010	0.0005	0.0005	0.0220	66	
OCDF	5.1756	0.001	0.0052	0.0052	0.0200		
2378-TCDD	*	1.000	0.0120	0.0000	0.0120	85	
12378-PCDD	*	0.500	0.0070	0.0000	0.0140	79	
123478-HxCDD	*	0.100	0.0016	0.0000	0.0160	96	
123678-HxCDD	0.1024	0.100	0.0102	0.0102	0.0160	89	
123789-HxCDD	0.0386	0.100	0.0039	0.0039	0.0180		
1234678-HpCDD	4.3266	0.010	0.0433	0.0433	0.0280	65	
OCDD	72.6134	0.001	0.0726	0.0726	0.0400	54	
TEQ (Nato)			0.2418	0.2112			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 : 