



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

## Field Test Experiments and Validation of CEN/TS 1948-4 Dioxin-like PCBs from stationary sources

– CEN/TC 264/WG 1 “Dioxins and PCBs (Emission)” –

### Annex 5

## LOD and LOQ calculation of municipal waste incinerator measurements



**Secretariat:**

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	Cooled Probe			Cooled Probe			Filter Condenser		
	LOD			LOQ			LOD		
	Mean + 3SD			Mean + 10SD			Mean + 3SD		
Unit	pg/m <sup>3</sup>			pg/m <sup>3</sup>			pg/m <sup>3</sup>		
<b>I-TEQ (n.d.=n.d.)</b>	<b>1.16</b>			<b>2.43</b>			<b>1.14</b>		<b>2.24</b>
3,3',4,4'-Tetra-CB 77	15.25			26.51			34.64		80.68
3,4,4',5'-Tetra-CB 81	1.37			2.96			1.34		3.10
3,3',4,4',5'-Penta-CB 126	0.84			1.45			4.09		7.33
3,3',4,4',5,5'-Hexa-CB 169	0.44			1.18			2.53		6.53
WHO-TEQ PCB 1	0.09			0.16			0.43		0.79
2,3,3',4,4'-Penta-CB 105	22.43			38.90			48.35		117.76
2,3,4,4',5'-Penta-CB 114	2.38			4.29			8.86		21.32
2,3',4,4',5'-Penta-CB 118	103.02			124.00			221.83		545.11
2',3,4,4',5'-Penta-CB 123	1.83			3.79			2.19		4.01
2,3,3',4,4',5'-Hexa-CB 156	16.60			35.56			11.33		20.30
2,3,3',4,4',5'-Hexa-CB 157	5.56			9.16			2.55		4.42
2,3',4,4',5,5'-Hexa-CB 167	11.91			7.26			8.23		5.44
2,3,3',4,4',5,5'-Hepta-CB 189	3.70			6.42			2.15		3.74
WHO-TEQ PCB 2	0.02			0.04			0.04		0.08
<b>WHO-TEQ PCB Total</b>	<b>0.11</b>			<b>0.20</b>			<b>0.47</b>		<b>0.87</b>
PCB #28	0.47			0.81			1.32		2.77
PCB #52	0.28			0.44			0.62		1.16
PCB #101	0.20			0.24			0.34		0.76
PCB #138	0.19			0.40			0.13		0.23
PCB #153	0.24			0.38			0.21		0.37
PCB #180	0.12			0.26			0.07		0.12
<b>Total</b>	<b>1.25</b>			<b>1.72</b>			<b>1.71</b>		<b>2.85</b>

LOD, LOQ: Cooled Probe and Filter Condenser

	Dilution 1		Dilution 1		Dilution 2		Dilution 2	
	LOD		LOQ		LOD		LOQ	
	Mean + 3SD		Mean + 10SD		Mean + 3SD		Mean + 10SD	
Unit	pg/m <sup>3</sup>		pg/m <sup>3</sup>		pg/m <sup>3</sup>		pg/m <sup>3</sup>	
<b>I-TEQ (n.d.=n.d.)</b>	<b>3.10</b>		<b>8.07</b>		<b>5.76</b>		<b>15.09</b>	
3,3',4,4'-Tetra-CB 77	66.23		164.25		104.25		250.33	
3,4,4',5-Tetra-CB 81	1.89		4.44		3.26		7.59	
3,3',4,4',5-Penta-CB 126	1.92		4.94		3.75		9.85	
3,3',4,4',5,5'-Hexa-CB 169	1.20		3.23		2.22		5.98	
WHO-TEQ PCB 1 (n.d.=n.d.)	0.20		0.50		0.39		1.01	
2,3,3',4,4'-Penta-CB 105	118.50		243.45		230.39		498.35	
2,3,4,4',5-Penta-CB 114	14.83		32.80		23.16		48.28	
2,3',4,4',5-Penta-CB 118	434.63		899.93		802.73		1705.04	
2',3,4,4',5-Penta-CB 123	15.54		29.55		25.27		45.21	
2,3,3',4,4',5,-Hexa-CB 156	68.51		130.66		142.40		299.19	
2,3,3',4,4',5'-Hexa-CB 157	13.09		29.55		26.42		62.57	
2,3',4,4',5,5'-Hexa-CB 167	38.11		88.22		75.82		182.00	
2,3,3',4,4',5,5'-Hepta-CB 189	10.73		22.27		21.98		48.86	
WHO-TEQ PCB 2 (n.d.=n.d.)	0.09		0.16		0.18		0.36	
<b>WHO-TEQ PCB Total</b>	<b>0.29</b>		<b>0.67</b>		<b>0.57</b>		<b>1.37</b>	
PCB #28	1.71	ng/m <sup>3</sup>	2.93	ng/m <sup>3</sup>	2.51	ng/m <sup>3</sup>	3.49	ng/m <sup>3</sup>
PCB #52	3.71		9.89		5.70		14.85	
PCB #101	1.98		5.04		3.06		7.54	
PCB #138	0.79		1.86		1.33		3.07	
PCB #153	1.78		2.75		3.47		5.91	
PCB #180	0.60		1.30		1.23		2.81	
<b>Total</b>	<b>8.30</b>		<b>20.08</b>		<b>14.22</b>		<b>32.62</b>	

LOD, LOQ: Dilution