Buyer's requirement specifications for procurement of analysis of dioxins (PCDD and PCDF) and dioxin-like PCBs in foodstuff of animal origin

1. Background

The EU recommends that the levels of dioxins, furans and PCBs should be monitored in food. The recommendation states that Norway should have annual sampling for each of the following animal food products: ***meat and meat products, milk and milk products, eggs and other foods***.
These specifications will just focus on the products of **terrestrial animals**.

2. Prerequisites and requirements:

The following compounds and congeners will be analysed for the Dioxin, Furans and dioxin-like PCBs:

A. Dibenzo-p-dioxins (PCDD)

2,3,7,8-TCDD
1,2,3,7,8-PeCDD
1,2,3,4,7,8-HxCDD
1,2,3,6,7,8-HxCDD
1,2,3,7,8,9-HxCDD
1,2,3,4,6,7,8-HpCDD
OCDD

B. Dibenzofurans (PCDF)

2,3,7,8-TCDF
1,2,3,7,8-PeCDF
2,3,4,7,8-PeCDF
1,2,3,4,7,8-HxCDF
1,2,3,6,7,8-HxCDF
1,2,3,7,8,9-HxCDF
2,3,4,6,7,8-HxCDF
1,2,3,4,6,7,8-HpCDF
1,2,3,4,7,8,9-HpCDF
OCDF

C. Dioxin-like PCB

Non- ortho PCBs
PCB 77
PCB 81
PCB 126
PCB 169

Mono-ortho PCB

PCB 105
PCB 114
PCB 118
PCB 123
PCB 156
PCB 157
PCB 167
PCB 189

2.1 Performance and Quality Assurance of the analysis
Sample preparation and analysis of dioxins (PCDD), furans (PCDF) and dioxin-like PCBs shall be carried out according to the Commission Regulation (EU) 2017/644 and meet the requirements of screening and confirmatory methods in annex III in this regulation.

All analytical results must follow the amendment of section 5 in Regulation (EC) 1881/2006; see Regulation (EU) 1259/2011, concerning expression of results as on fat or wet weight.

Whereas the laboratory fulfilling the requirements in the Control Regulation EC 2017/625, Article 100, the laboratory should preferably serve as NRL for the NFSA for all contracted analysis.
The following information must be included in the report/certificate:

- The amount/ weight of the sample
- The fat content and if possible the water content in the sample
- Analytical results for the two sums PCDD / -F-TEQ and PCDD/-F + dl-PCB -TEQ calculated as upper, middle and lower bound, with (at least) the same number of significant figures as those given in the corresponding maximum levels from Regulation (EU) No 1259/2011.
- Quantification and recoveries of each congener.
- Information about the method used for e.g. fat determination.
- Analytical results for the blank and control samples.
- The expanded uncertainty (the measurement uncertainty) of the analytical method, preferably adjusted for levels and the different sums

The laboratory's own sample number, receiving date and local time, the NFSA’s sample identification number, and the type of matrix shall also be recorded in the report.

Form for reporting of congener specific analytical results for dioxins and dioxin-like PCBs in foodstuffs.

Reporting of compliant and non-compliant samples shall be in English in a clear manner according to the recommended reporting form provided by EC (see the reporting form attached below).

Country	
Year	
Product	
Stage of marketing	
Tissue	
Expression of results	
Type of sampling	
Sample No.	
Production method	
Area	
Number of subsamples	
Fat content (%)	
Moisture content (%)	

Remarks
Lipid extraction method used

1	dioxins and furans (ng/kg)		Congeners	TEF 2005	LOD	LOQ	Recovery (%)	Results	TEQ
	Methods		2,3,7,8 - TCDD	1					
	Detection		1,2,3,7,8 - PeCDD	1					
	Unit		1,2,3,4,7,8 - HxCDD	0,1					
	Accredited		1,2,3,6,7,8 - HxCDD	0,1					
	Uncertainty (%)		1,2,3,7,8,9 - HxCDD	0,1					
			1,2,3,4,6,7,8 - HpCDD	0,01					
			OCDD	0,0003					
			2,3,7,8 - TCDF	0,1					
			1,2,3,7,8 - PeCDF	0,03					
	Total TEQ-PCDD/PCDF		2,3,4,7,8 - PeCDF	0,3					
			1,2,3,4,7,8 - HxCDF	0,1					
	Upperbound		1,2,3,6,7,8 - HxCDF	0,1					
	Mediumbound		1,2,3,7,8,9 - HxCDF	0,1					
	Lowerbound		2,3,4,6,7,8 - HxCDF	0,1					
			1,2,3,4,6,7,8 - HpCDF	0,01					
			1,2,3,4,7,8,9 - HpCDF	0,01					
			OCDF	0,0003					

2	non-ortho PCBs (pg/g or ng/kg)		PCB congeners	TEF	LOD	LOQ	Recovery (%)	Results	TEQ
	Methods		PCB-77	0,0001					
	Detection		PCB-81	0,0003					
	Unit		PCB-126	0,1					
	Accredited		PCB-169	0,03					
	Uncertainty (%)								
3	**mono-ortho PCBs (pg/g or ng/kg)**		**PCB congeners**	**TEF**	**LOD**	**LOQ**	**Recovery (%)**	**Results**	**TEQ**
	Methods		PCB-105	0,00003					
	Detection		PCB-114	0,00003					
	Unit		PCB-118	0,00003					
	Accredited		PCB-123	0,00003					
	Uncertainty (%)		PCB-156	0,00003					
			PCB-157	0,00003					
			PCB-167	0,00003					
			PCB-189	0,00003					

Total TEQ-PCB	

Upperbound	
Mediumbound	
Lowerbound	