**Validation of GC-MS/MS confirmatory method for the EU official control of levels of PCDDs and DL-PCBs in feed material of plant origin**

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Criteria for sampling and analysis for the official control of levels of dioxins (including polychlorinated dibenzo-*p*-dioxins -PCDDs- and polychlorinated dibenzofurans -PCDFs-), and dioxin-like PCBs (DL-PCBs) in feeding stuff and in certain foodstuffs are described in Commission Regulations (EU) No 278/2012 and 252/20121,2. They require the application of gas chromatography coupled with high resolution mass spectrometry (GC-HRMS) as confirmatory method for the unequivocal identification and quantification of PCDD/Fs and DL-PCBs at the level of interest.

In 2011, based on recent reports about performances of new generation tandem mass spectrometry (MS/MS) systems3-5, a specific core working group was formed within the network of European Union Reference Laboratory (EU-RL) and National Reference Laboratories (NRLs) of EU Member States to investigate the capability of GC coupled to MS/MS (mainly triple quadrupole analyzers) based methods for potential use as an alternative confirmatory method for dioxins and PCBs in Feed and Food6. After amendments of the current criteria for confirmatory methods, it was concluded that GC-MS/MS systems could possibly be used as an alternative to GC-HRMS systems as confirmatory methods.

The present study reports on the first validation of a GC-MS/MS method for quantification of PCDD/Fs and DL-PCBs in feed materials of plant origin (vegetable oils) at the regulation level7 of 0,75ng WHO-PCDD/F-TEQ/kg and 1,5ng WHO-PCDD/F-PCB-TEQ/kg. Results are further compared to the current routine confirmatory GC-HRMS method.

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 Commission Regulation (EC) No 278/2012 of 28 March 2012 amending Regulation (EC) No 152/2009 (OJ L 91, 29.3.2012, p. 8–22)

2 Commission Regulation (EU) No 252/2012 of 21 March 2012 repealing Regulation (EC) No 1883/2006 (OJ L 84, 23.3.2012, p. 1–22)

3 Ingelido AM et al. (2011) Rapid Commun. Mass Spectrom, 26: 236-242

4 Sandy C et al. (2011) Organohalogen Compd 73: 1370-1371

5 Kotz A et al. (2011) Organohalogen Compd 73 : 688-691

6 Kotz A et al. (2012) Organohalogen Compd 74 : 156-159

7 Commission Regulation (EU) No 277/2012 of 28 March 2012

amending Annexes I and II to Directive 2002/32/EC (OJ L 91, 29.3.2012, p. 1–7)