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Title of the paper

Universal Automated Extraction and Clean-up System for Dioxin and PCB analysis in Food and Feed.

Poster session

General Analytical Methods

JEAN-FRANCOIS FOCANT, CATHERINE PIRARD, EDWIN DEPAUW, University of Liège, Belgium; HAMID SHIRKHAN, Fluid Management Systems, USA: <u>Universal Automated Extraction and Clean-up System for Dioxin and PCB analysis in Food and Feed</u>. Last years, different dioxin and PCB contamination episodes took place internationally at various levels of our food chain. Regulatory agencies are therefore busy setting tolerable limits for the concentration of those compounds in food and feed. On the analytical point of view, a systematic monitoring of such matrices requires very sensitive, accurate, rapid and cost-efficient methods in order to produce reliable results. If good quality data are produced from most of the accredited laboratories, they often do not offer the required throughput due to the complexity of the task. We report here the use of a new integrated extraction and clean-up system capable to automatically treat either liquid or solid matrices such as milk, meats, fishes and animal feeding stuffs. For liquid matrices, the extraction step is based on solid phase extraction (SPE, C_{18}) although pressurized liquid extraction (PLE) is used for solid samples. Those extraction steps are integrated on-line with further chromatographic columns (multi-layer silica, alumina and carbon based), which take care of the sample clean-up and fractionation depending of analyte class. The sample preparation time can thus be reduced to less than 2 hours for up to ten samples processed in parallel. The use of such a setup generates good quality control (QC) data such as reproducibility, repeatability, accuracy and robustness over targeted matrices.