

CON-PRA-053

CONFIRMATORY METHODS
Isotopic dilution & quantification of dioxins

• **Context**

The Persistent Organic Pollutants regulation in foodstuff is based on maximal contamination limits. In this way, the sample preparation has to lead to an efficient quantitative measurement giving a confident concentration in all the matrices (more or less complex) considered. The isotopic dilution method is currently used as the gold method for the quantification of dioxins.

• **General objective(s)**

The aim of this practical module is, on the one hand, to explain what an isotopic cluster is, with special attention paid to the presence of chlorine atoms in target compounds, and on the other hand, to explain in detail what the isotopic dilution method concept is.

• **Main items**

Confirmatory method / GC-HRMS / Dioxins / Isotopic dilution / Ion cluster

• **Pedagogical objectives**

- ✓ To explain what an isotopic cluster is
- ✓ To explain the isotopic dilution method

• **Pedagogical tools**

- ✓ PowerPoint slide show
- ✓ Rapid exercise concerning isotopic clusters from halogenated compounds

• **Duration**

- ✓ 30 minutes

• **Pre-requisite**

- ✓ Theoretical lectures on sample preparation (SAM-THE-010, SAM-THE-020, SAM-THE-030)
- ✓ Theoretical lecture on confirmatory methods for POPs (CON-THE-040)
- ✓ Practical presentation on confirmatory methods for POPs (CON-PRA-045)