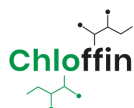


CPs in ERM-CE100

FIRST-EVER MATRIX REFERENCE MATERIAL CERTIFIED FOR CHLORINATED PARAFFINS



**NEW
PRODUCT**



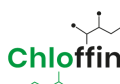
Chlorinated paraffins

Chlorinated paraffins (CPs) are ubiquitous environmental contaminants showing high persistence, bioaccumulation potential and toxicity. The lack of suitable standards contributes to the well-recognised poor accuracy of their quantitative determination. The Joint Research Centre (JRC) released the first matrix Certified Reference Material (CRM) for CPs, an essential tool for improving the comparability of measurement results worldwide.

CPs are industrial chemicals whose global production is unknown but it is believed to largely exceed 1 million tonnes per year with China as the main player.

They are typically sub-divided in three groups: short- (SCCPs), medium- (MCCPs) and long-chain (LCCPs), each of these groups containing thousands of isomers. They are categorised as priority environmental pollutants, given their characteristics of long-range transport, persistence, bioaccumulation potential and toxicity. CPs will stay in the environment for decades and have been already found in food and in the human body.

CP analysis is so challenging that it has not yet reached a satisfactory degree of comparability and accuracy. Environmental and food control laboratories all over the world struggle in delivering quality-assured measurement results. The lack of suitable reference materials is recognised as one of the main causes for the unreliability of determination of these complex analytes.



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The Eurostars project: **CHLOFFIN (2019-2022)**

The Eurostars project CHLOFFIN, consortium of three partners: Chiron, Vrije Universiteit Amsterdam and the JRC, addressed the urgent call for CPs standards.

An enlarged suite of purity-assessed native and labelled individual standards and mixtures (by Chiron) and the first matrix CRM (by the JRC) are now commercially available. ERM-CE100, a fish tissue RM already certified for hexachlorobenzene and hexachlorobutadiene, was chosen as best candidate for the certification of CPs.

The certification campaign was facilitated by the application of a range of pure single SCCPs congeners and mixtures prepared by Chiron specifically for this purpose; common calibrant: CLF-5248 and calibration quality control: CLF-5371.

CLF-5248

Product name	Common Calibrant mix of SCCP single congeners CLF Mix 3
Generation	2nd & 3rd

CLF-5371

Product name	Calibration QC of SCCP single chain mixtures CLF Mix 5
Generation	Single chain



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ERM-CE100

ERM-CE100 was characterised by an intercomparison of laboratories of demonstrated competence, adhering to ISO/IEC 17025:2017 and applying different analytical procedures. The assigned values for SCCPs and MCCPs include results obtained by gas chromatography (GC) and liquid chromatography (LC) based analytical methodologies coupled with different mass spectrometry (MS) detectors. The certified value and uncertainty for SCCPs are traceable to the International System of Units (SI).

The Chloffin project has provided a toolbox for the laboratories interested in developing, optimising and validating analytical methods for CPs. The matrix CRM **ERM-CE100** represents an important step forward in improving the determination of these analytically challenging pollutants, securing better accuracy and traceability of measurement results.



CPs in ERM-CE100

The CRM **ERM-CE100** (together with its certificate and certification report) is available from the **JRC's online catalogue** and from the JRC's authorised distributors.

AVAILABLE NOW: CRM ERM-CE100 - FISH TISSUE
(Hexachlorobenzene, Hexachlorobutadiene, Chlorinated Paraffins)



chiron.no | crm.jrc.eu.europa.eu | science.vu.nl | chloffin.eu