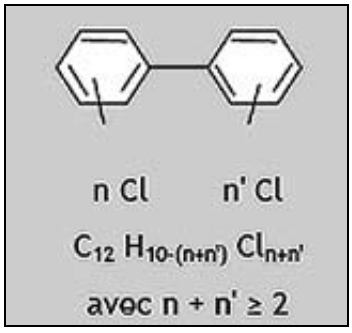
Environment – Water : Drinking Water Matrix

PCBs in Drinking Water



e.g. CB 153 = C12H4Cl6
(coplanar compound)

One of the key missions of the Chemical and Biological Metrology Laboratory of LNE is to establish the metrological traceability and to assess the uncertainty of analytical measurements. To this end, LNE implements primary reference methods and produces Certified Reference Materials (CRMs), for various applications in the field of industrial, environmental and health analysis.

CRMs are metrological tools to achieving the traceability of measurement results and therefore ensuring reliability and comparability of results of chemical analyses everywhere in the world. Ensuring traceability is moreover a requirement of ISO/CEI-17025 standard.

CRMs are mainly used to carry out analytical instruments calibration and analytical procedures validation.

All reference materials produced by the Chemical and Biological Metrology Laboratory of LNE are **Certified** Reference Materials, meaning that the traceability to SI (International System of Units) is fully ensured through primary methods of measurement. The quality of each CRM is fully documented in the certificate describing the way the traceability is established and providing the uncertainty of the certified value.

Most of the CRMs produced are covered by CMCs (Calibration and Measurement Capabilities) published in the BIPM (Bureau International des Poids et Mesures) database ensuring the equivalence of LNE capabilities with the other National Metrology Institutes worldwide. Accreditation against ISO Guide 34 for CRMs production is currently in progress.

According to the Water Framework Directive 2000, European Member States are committed to monitor priority substances on a regular basis in all relevant water bodies and to check compliance with the environmental quality standards (EQS).

PCBs are among the substances which are subjected for possible identification as priority dangerous substances of the Water Framework Directive and thus it is of primary interest to laboratories of environmental analysis to develop analytical methods fit for purpose of compliance checking with the EQS for these compounds.

The need for CRMs with a composition as close as possible to real water to improve the quality of the analysis of contaminants is critical. Moreover, the production of CRMs for organic analyses in water encounters constraints on preparation, storage and usage.

LNE is currently testing an alternative method, using SPE technique, to provide laboratories for environmental analysis with a CRMs in drinking water at EQS concentrations for PCBs (PCB28, PCB52, PCB101, PCB138, PCB153, PCB180).

Concentration range : EQS concentrations

Conditioning :

Availability : Available soon

Price : On request

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