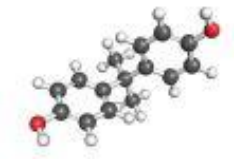
LEC METHOD FOR BISPHENOL A ANALYSIS IN BEVERAGE



Introduction

Bisphenol A is a compound well known for its harmful effects on human health as endocrine disruptor. This contaminant is subject to intensive monitoring by some countries such as the United States (California) and Canada. Bisphenol A is included into the list of "Proposition 65" published by the OEHHA * since 2015. It can be found in plastic materials and some resins.

With 15 years experience, our laboratory provides research, analysis and monitoring of contaminants and is regularly solicited to perform this service. With the aim of improving our services, we optimized and revalidated our analysis method of this contaminant by SBSE (1) which offers particularly interesting limits of quantification.

As for all our methods developed at LEC a validation file has been constituted. Also for this compound LEC participates in the inter-laboratory ring test of BIPEA**. Then this method may be the subject of an application for accreditation at a future COFRAC*** audit.

* Proposition 65, was promulgated in November 1986 by the State of California. It requires that the State maintain and update a list of chemicals known to cause carcinogenic effects on individuals or reproductive toxicity.. http://oehha.ca.gov/proposition-65/proposition-65-list (updated October 21, 2016). I**n December 2016, bisphenol A was reintroduce.**
** Provider of proficiency testing programs; www.bipea.org/node/87
*** Accreditation's gate in France; Accredited EU ETS verifiers according to Regulation (EU) No 600/2012. www.cofrac.fr .

Performances de la méthode

Our performances have been validated according to NF-V03-110 * revision May 2010, we remind ourselves that these limits are systematically checked during our analysis sessions in order to guarantee them on a routine basis.

* Analysis of agri-foodstuffs - Protocol of characterization for the validation of a quantitative method of analysis by construction of an accuracy profile.

- **LIMIT OF DETECTION(2) AND QUANTIFICATION(3) FOR THE SIMPLE DESORPTION METHOD : 0.008 et 0.025 µg/L** (Volume required : 60 mL).
- **GENERAL INFORMATIONS ABOUT BISPHENOL A ANALYSIS IN LIQUIDES :**

- The analysis of this contaminant with a threshold of ppt (ng/L) becomes more and more demanding in terms of sensitivity. To carry out this analysis, our laboratory follows the recommendations of the Technical Guide for Accreditation LAB GTA 26 (4) issued by COFRAC.

- The SBSE (1) -TDGCMS method implemented at LEC is known to be the most sensitive for this family of molecules, hence its common use in the field of environment (water in particular).

- For the validation and the monitoring of the analysis method, we work directly on the matrix (wine or spirits) instead of a synthetic solution to guarantee the reality of the performances announced.

- LEC can supply bottles specifically packaged at high temperatures for the collection of liquid samples. We recall that it is imperative to place an aluminum film between the neck of the bottle and the stopper to avoid any contact of the liquid with plastics.

(1) SBSE : Stir Bar Sorptive Extraction (http://www.gerstel.com/en/twister-stir-bar-sorptive-extraction.htm)

(2) Practical definition of limit of detection (Ld): This is the limit of the analysis method which can confirm the presence of a compound without, however, delivering a quantitative value.

(3) Practical definition of the limit of quantification (Lq): This is the limit of the analysis method which can deliver a quantitative value with associated uncertainty.

(4) Technical Guide for Accreditation - Analyzes of residues of pesticides and organic contaminants in foodstuffs intended for humans or animals, biological matrices of animal origin (www.cofrac.fr).

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www.lec-cognac.com