

**IDENTIFICATION OF NON-VOLATILE COMPOUNDS IN EPOXY RESINS AND ORGANOSOLS INTENDED FOR FOOD CONTACT**

***P. Vázquez Loureiro<sup>1</sup>, A. Lestido-Cardama<sup>1</sup>, R. Sendón<sup>1</sup>, M<sup>a</sup>.I. Santillana<sup>2</sup>, J. Bustos<sup>2</sup>, P. Paseiro Losada<sup>1</sup>, A. Rodriguez Bernaldo de Quirós<sup>1</sup>***

<sup>1</sup>Department of Analytical Chemistry, Nutrition and Food Science, Faculty of Pharmacy, University of Santiago de Compostela

15782-Santiago de Compostela, Spain

<sup>2</sup>Food Center, Spanish Agency of Food Safety and Nutrition  
E-28220 Majadahonda, Spain

Email: patriciavazquez.loureiro@usc.es

***Abstract***

Polymeric coatings are applied in the inner surface of food metal cans acting as a barrier between food and the metal surface. During the polymerization process, side reactions can occur, and reaction products can be formed, which have the potential to migrate into the food and may constitute a risk for the consumer health. Epoxy or organosol resins are one of the most used for internal food and beverage can linings due to the excellent chemical resistance. In the present study high performance liquid chromatography with fluorescence detection (HPLC-FLD) and liquid chromatography coupled to tandem mass spectrometry (LC-MS/MS) with atmospheric pressure chemical ionisation (APCI) were used for the identification and quantification of compounds in epoxy resins and organosols can material samples. Previous to the chromatographic analysis, of 3 coated metal samples were extracted with acetonitrile. Some of the compounds identified in the samples included BADGE, BADGE.H<sub>2</sub>O and cyclo-di-BADGE.

***Keywords:*** coatings, LC-MS/MS, bisphenol analogues and BADGEs

**Acknowledgements:** This research was funded by the Ministerio de Ciencia, Innovación y Universidades, by Fondo Europeo de Desarrollo Regional (FEDER), and by Agencia Estatal de Investigación Ref. No. PGC2018-094518-B-I00 "MIGRACOATING" (MINECO/FEDER, UE). Authors are grateful to "Ministerio de Ciencia, Innovación y Universidades" for the Predoctoral fellowship (ref. PRE2019-088195) awarded to Patricia Vázquez Loureiro.