

Title: Analytical strategies to study the migration of selected chemical contaminants into dry foodstuffs.

Name: Kathy Van Den Houwe
Scientific Institute for Public Health , Belgium

Abstract (250-300 words)

Several alerts for food contamination caused by photo-initiators, which are added to UV-curable inks to cure the ink onto the substrate, occurred in the past. In 2005, Italian authorities withdrew thirty million liters of infant milk from the market due to the presence of the photo-initiator 2-Isopropylthioxanthone. Since then, other photo-initiators have also been found in foodstuffs.

Evaluation of the migration of photo-initiators in foodstuffs is challenging due to the complexity of the matrix and the wide variety of foodstuffs that need to be analysed. Therefore, migration studies can be carried out using food simulants. The official simulant for dry foodstuffs is poly(2,6-diphenylphenylene oxide), also known under its commercial name Tenax®. In this contribution, the performance of Tenax® as a simulant for dry foodstuffs for the migration of photo-initiators from cardboard packaging was evaluated. Therefore, the simulation according to EU Regulation 10/2011 was compared to the real migration conditions for dry foodstuffs. Important migration features such as migration temperature, migration time, Tenax® pore size were studied, supporting the suitability of Tenax® as a simulant for the migration of photo-initiators towards cardboard from a consumer safety point of view.

Unfortunately, the use of the Tenax® powder as a simulant is inconvenient since the powder has to be entirely collected in a recipient prior to contaminant extraction. Therefore, Tenax® films were synthesized that can be easily applied to the cardboard surface. The performance of the films was compared to the performance of the Tenax® powder for a selection of model contaminants.

It was concluded that the performance of Tenax® as a simulant for the migration of photo-initiators from cardboard towards dry foodstuffs was illustrated. However, the use of easy applicable Tenax® films can open new perspectives in the domain of testing food contact materials intended for contact with dry foodstuffs for compliance.

Biography(100-150 words)

Kathy Van Den Houwe graduated as bio-engineer and after some research on the stability of migrants in food simulants, for the University of Ghent and the ILVO (Institute for agricultural and fisheries research) in 2012, she started working for the Scientific Institute of Public health (WIV-ISP) in Brussels. Dr. Kathy Van Den Houwe has completed her PhD in Organic Chemistry at Ghent University in 2017 and she has published 5 papers in reputed journals.

Presenting author details
Full name: Van Den Houwe
Session name/ number: 11. Food Packaging
Category: Oral (Oral/ Poster)
Email id: kathy.vandenhouwe@wiv-isp.be
Contact number: 0032472547177