

# 8<sup>th</sup> World Congress on TOXICOLOGY AND PHARMACOLOGY

April 13-15, 2017 Dubai, UAE

## Microbiological efficacy of food contact materials

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In the scope of the currently performed grant project ALTERBIO, plastic products with antimicrobial agents integrated into a polymeric matrix, intended e.g. as food contact materials, were tested by means of microbiological tests for antibacterial activity. The tested samples comprised source materials (e.g. foils, plastics) and finished products (tableware). Metal ions, including silver and tartaric acid in concentrations 0.8%-1.0% were chosen as antimicrobial agents bound in various polymers. The methods used included microbiological tests for determining the biocidal/biostatic efficacy of preservatives against bacterial growth. Strains of Gram+ bacteria (*Staphylococcus aureus*, ATCC 6538P) and Gram- bacteria (*Escherichia coli*, ATCC 8739) were obtained from the Collection of Microorganisms, Brno, Czech Republic. Measurement of antibacterial activity on plastic surfaces was performed using methods according to International standard ISO 22196:2011 Measurement of antibacterial activity on plastics and other non-porous surfaces. The methods were modified and optimized with respect to the type of finishing material surface (hydrophobic, hydrophilic). The promising samples of developed materials with stable antimicrobial efficiency have to be further tested as food contact materials which must comply with the general requirements set by the EU Framework Regulation No. 1935/2004 on materials and articles intended to come into contact with foods. The final articles/products under normal and foreseeable conditions of use should not transfer their constituents into foodstuffs in quantities, which could endanger human health, bring about an unacceptable change in the composition of the foodstuffs or cause deterioration in their organoleptic characteristics.

## Biography

Bendová Hana has completed her graduation from the Charles University in Prague and received her PhD from the Palacký University in Olomouc. Her professional specialization is Dermatotoxicology, focused on safety and efficacy assessment of cosmetics and other consumer products. She works as the Head of Biomedical Unit at the National Institute of Public Health in Prague, Czech Republic. She has published more than 20 papers in reputed journals.

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