

## Abstracts

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#### In Vitro Evaluation Of The UV Filters' Photostability

Jarmila Hojerová<sup>1</sup>, Danka Šovčíková<sup>1</sup>, Milan Mikula<sup>2</sup>

<sup>1</sup>Section of Cosmetology, Faculty of Chemical and Food Technology, Slovak University of Technology, Bratislava, Slovakia  
<sup>2</sup>Section of Applied Photochemistry, Faculty of Chemical and Food Technology, Slovak University of Technology, Bratislava, Slovakia

The most important factor, which may modify the sun care product's efficiency, is the photochemical instability of some UV actives when exposed to ultraviolet radiation. The photostabilities of 12 commercially available UV filters (6 inorganic and 6 organic) were examined in in vitro method by applying 2mg/cm<sup>2</sup> of emulsion with respective UV filter on the inside of the quartz cuvette and measuring its absorption or transmission spectrum prior to, and after exposure to 19 MEDs and 38 MEDs of solar-simulated irradiation. Three new inorganic UV filters based on Zinc oxide and three new inorganic UV filters based on Titanium dioxide showed excellent photostability. Chemicals actives (Ethylhexyl Methoxycinnamate, Ethylhexyl Methoxycinnamate encapsulated in pearls, Ethylhexyl Salicylate, Butyl Methoxydibenzoylmethane, Octocrylene and Methylene bis-benzotriazolyl Tetramethylbutylphenol in the tested emulsions exhibited various photostability profiles. The most photolabile was Butyl Methoxydibenzoylmethane; 19 MEDs and 38 MEDs destroy its efficacy of 26.4% and 53.9% respectively. Ethylhexyl Methoxycinnamate encapsulated in pearls (Pearls OMC) showed photostability significantly higher than the same UV filters (OMC) in the free form; 19 MEDs destroy 13.1% OMC, but 2.0% of Pearls OMC efficacy only.

#### Men's Grooming – A demanding And Fast Growing Market

Ulrich Sahre

GE Bayer Silicones GmbH & Co. KG

Men are an increasingly important target group for Personal Care manufacturers. Traditionally, men haven't been using cosmetics to a big extend. But in today's modern society, things are changing dramatically. Men's grooming products are becoming more and more fashionable with a particular strong demand for high tech ingredients that meet the male consumers expectations in terms of performance properties and product attributes. The paper summarizes how the latest silicone technologies are capable to satisfy these needs and expectations.

#### Polish Cosmetic Act Versus Cosmetic Directive 76/768/EC

Ewa Starzyk

#### Polish Union of Private Employers of Cosmetics Industry

The Polish cosmetic act (Journal of Laws of 2001, no. 42, item 473) is one of the best legal acts functioning in the Polish legal system. A thorough comparative analysis of the legal provisions contained in the Polish cosmetic act and in the directive 76/768/EC, as well as their construction, indicates though that there are some entries in the Polish industry legislation which differ from those provided for in the directive. Improper transposition of the directive 76/768/EC provisions frequently results from attempts to adjust the implemented legislation to the specific nature of the market and the way of operation of monitoring institutions, such as sanitary inspection. The directive

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76/768/EC is of no minimal nature. Domestic provisions concerning cosmetic products which go beyond the directive stipulations (in the way which hinders the free movement of goods) may be in contentious cases treated as incompatibilities by institutions responsible for construing legal rules, including domestic courts and the European Court of Justice.

#### Modern Complexing Agents in HomeCare & Cosmetic Products

Anna Frydrych, Jacek Arct

Faculty of Chemistry, Warsaw University of Technology, Poland; Academy of Cosmetics and Health Care, Warsaw, Poland

In many cosmetic and household products, the presence of free metal ions could lead to serious problems resulting from the formation of insoluble metal salt precipitates in the products themselves or during the usage as in case of washing products. To provide effective control of metal ions different chelating agents (also referred to as "sequestering agents", "builders", "co-builders" or "water conditioners") are added into formulations. It should be mentioned however, that the word "builder" have much wider meaning, because builders can work by complexation (i.e. sodium tripolyphosphate STPP), precipitation (i.e. sodium carbonate) or ion-exchange (zeolites).

#### Nanotechnology In Surface Modification

Wojciech Fabianowski, Agnieszka Rogulska

Faculty of Chemistry, Warsaw University of Technology, Poland Academy of Cosmetics and Health Care, Warsaw, Poland

Nanomaterials, nanotechnology are promising solutions for new technical products, including cosmetic and house-hold cleaning devices. Nanomaterials were known and practically used for years but during the last couple of years were developed ways to organize them in 2D or 3D structures in controlled manner. Organized structures like 2D nanocoatings offer new possibilities in different fields like surface cleaning, barrier membranes, sensors and biomedical devices. Brief introduction to the construction of nanostructures will be presented as well as methods for preparation of sandwich-like nanocomposite structures composed from several layers made from different monomolecular films (from organic molecules, polymeric films, inorganic clays). Methods for such films characterization – measurement of thickness, wettability, chemical composition, presence of defects, stability will be briefly discussed. There will be mentioned both advanced instrumental tools and methods (like XPS; FTIR GA, VA, ATR, RR, DR; AFM; STM; CV) and relatively simple and still sensitive methods like contact angle measurements, roughness determination and visual inspection.