J. Cosmet. Sci., 56, 149–150 (March/April) 2005)

Abstracts

Journal of the Society of Cosmetic Chemists Japan Vol. 38, No. 4, 2004*

Stabilization and Application of Liposomal Structures Containing Sphingoglycolipid and Sterylglycoside Originating in Plants

Chihiro Kaise, Teruhisa Kaneko, Shu Uemura

The efficacy of corn sphingoglycolipid containing cerebroside and sterylglycoside as a cosmetic material has been studied in terms of its physicochemical stability and skin care effects. As a result of, it was clarified that the optimized corn sphingoglycolipid with a proper ratio of cerebroside and sterylglycoside showed a superb occlusive ability against water evaporation and gave a high moisturizing effect to the skin. Therefore, it was concluded that it could become a promising cosmetic material.

Application of Emulsion Technology to Cosmetics

Yuji Sakai

POLA Chemical Industries, Inc.

Skin care cosmetics and emulsions are related closely. The recent emulsion technology has advanced the quality of cosmetics, and cosmetics technology has advanced the study of emulsion. Therefore, cosmetic or emulsion researchers including the author were able to develope highly functional cosmetics by studying the chemical structure of oils and the form of emulsions which are both main factors for emulsion. As for the chemical structure of oils, a study has shown that a high polar oil with unique properties was synthesized, and applied to make - up remover. This study was worthy of notice to connect the properties of the oil and emulsion with the organic conceptual diagram. As for the form of emulsion, it was reported that multiple type emulsion stabilized active ingredients and helped to permeate the skin markedly and employing a high pressure homogenizer brought even higher efficiency.

Age - Associated Changes in the Amount of Subcutaneous Tissue in the Face Evaluated in the Ultrasonic B Mode

Mayumi Satoh, Shinobu Mori, Hiroshi Nojiri, Naonobu Yoshizuka, Yoshinori Takema

Biological Science Laboratories, Kao Corporation

In this study, age - associated changes in facial skin, cosmetologically critical factors, were studied in terms of local subcutaneous fat tissue. The subjects were 98 Japanese females evenly chosen from their teens to 70s. On each subject, the thickness of subcutaneous tissue was determined by the ultrasonic B mode method on four facial sites, forehead, orbit, cheek, and mandible. Age - association of the tissue thickness was facial site - dependent. In the orbit, the subcutaneous tissue became thicker with age, whereas it showed a tendency of thinning in the forehead. No clear age - association was observed in the cheek or the mandible. To analyze the age

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- association further, the data were stratified into "lean group" and "obese group" based on their BMI, and subjected to multiple regression analysis. The age - association in the orbit was much more distinctive in the lean group than in the obese group.

Scanning Electron Microscopic Observation of Oil/Wax/Water/Surfactant System

Kaori Ikuta, Tomio Iikura, Hisayo Ito, Akihito Yokotsuka, Motoji Takahashi

Shiseido Life Science Research Center, Shiseido Makeup Product Development Center

We observed the internal structure of an oil/wax/water/surfactant system using a scanning electron microscope to investigate the relationship between its hardness and state of wax crystal. The molten wax (hydrogenated jojoba oil, ceresin, polyethylene wax, carnauba wax, or microcrystalline wax) was cast in a home - made spiral mold of aluminum foil for preparing the test specimen for SEM observation. In hydrogenated jojoba oil a fine frame - like crystal structure, the so - called "card - house structure," was observed but not in other waxes. The mixture of hydrogenated jojoba oil and water showed a few small droplets deposited on the roundish wax frame - like structure. On the other hand, waxes other than hydrogenated jojoba oil did not change their internal structure when they were mixed with water. This result suggested that hydrogenated jojoba oil showed uniquely high affinity for water. In the system of oil, water, surfactant, and various kinds of waxes, their crystal structure, hardness, and the shape of dispersed water particles were remarkably changed with the combination of waxes. In the system with ceresin and carnauba wax, the hardness measured by a card - tension meter was high, and the internal crystal structure was fine and amorphous. The water particle in the ceresin and carnauba wax system had a smaller diameter than that in the system containing hydrogenated jojoba oil. The system containing hydrogenated jojoba oil showed a card house - like wax crystal structure without high hardness. It was considered that the wax crystal structure played an important role in providing hardness and in contributing to the water distribution in the oil/wax/water/surfactant system.

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