

〈一般論文〉

電解水を用いた界面活性剤フリーエマルジョンの 作製とその皮膚透過制御効果

北村 敏彦¹, 小池真理子¹, 藤堂 浩明¹, 岡島 眞裕²,
石井 文由³, 杉林 堅次^{*1}

Preparation of Surfactant-Free Emulsions Using Electrolyzed Water and Its Regulation Effect on the Skin Permeation of Compounds

Toshihiko KITAMURA¹, Mariko KOIKE¹, Hiroaki TODO¹, Masahiro OKAJIMA²,
Fumiyoshi ISHII³, Kenji SUGIBAYASHI^{*1}

(Accepted: October 19, 2007)

Abstract

Surface-active agent- or surfactant-free oil-in-water (O/W) emulsions were prepared using several kinds of electrolyzed water, and physical stability and regulation effect on the skin permeation of model compounds, lidocaine base and lidocaine hydrochloride were evaluated for the resulting emulsions. Strongly alkaline electrolyzed water showed marked surface-activity among electrolyzed waters used in this study, suggesting it can be used to reduce surfactant concentration at the emulsion preparation. The effective compounds-entrapped emulsion was useful to reduce or sustain the release rate of the compounds. These results strongly support that O/W emulsions using strongly alkaline electrolyzed water can be effectively utilized in the topical pharmaceutical and cosmeceutical formulations.

Key words: electrolyzed water, strongly alkaline electrolyzed water, surfactant-free emulsion, skin permeation, emulsion stability.