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Presenter

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Title

Carrageenan as a Rheology Agent for Mild Cleansing Applications.

Abstract

Viscarin is a tradename given to viscosifying carrageenans manufactured by FMC BioPolymer. The suitability of Viscarins as rheology agents in mild cleansing applications has been investigated. Rheological properties, foam volume and clarity were measured to determine the impact of including 1% Viscarin on 10% solutions of the following surfactants: acylglutamate, cocoamidopropyl betaine, PEG-80 laurate, sodium lauryl sulphate and sodium lauryl sarcosinate. Viscosity, pseudoplasticity and thixotropy of Viscarin/surfactant solutions varied with surfactant type. In all cases, the addition of Viscarin substantially increased viscosity. For example, at a shear rate of 1 s^{-1} , all surfactant solutions had viscosities $< 0.1 \text{ Pa s}$ while viscosities of Viscarin/surfactant solutions ranged from 10 to 60 Pa s. By comparison, a solution of 1% Viscarin had a viscosity of 0.3 Pa s. Clarity of surfactant solutions decreased in all cases on the addition of Viscarin. However, it was found that by including a mild solubilizing surfactant, such as PEG 40 hydrogenated castor oil, crystal clarity could be maintained in Viscarin/surfactant solutions. Viscarin increased the foam volume of sodium lauryl sarcosinate solutions from 10 ml to 220 ml and had no impact on the foam volume of the other surfactants tested.

These results were used to formulate a clear, ultra-mild foaming cleansing gel based on sodium lauryl sarcosinate and Viscarin without the need for a secondary, foam-boasting surfactant. A mild shampoo was also formulated. Both products have excellent skin-feel and are capable of suspending bubbles and solid inclusions.