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Rheological properties of a Tunisian commercial ketchup

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The aim of this study was to propose a new semi-empirical model to investigate the rheological properties principally of Tunisian commercial ketchup with different botanical origin, as a thickener for sauces, ketchup type. The material consisted of natural starches: Waxy maize, corn and potato, modified with a cross-linker comprising acetic anhydride and adipic acid. Research on: Rheology, color, texture and acidity of the finished product. It was found that all the sauces in terms of rheological fluids were pseudoplastic flow from abroad. The biggest apparent viscosity was characterized by ketchup with the addition of waxy maize starch, then: With potato starch and corn. Texture profile parameters studied sauces differed slightly from the parameters of commercial ketchups, and the largest differences occurred in the hardness and adhesiveness. The use of resistant starch preparations for sauces had a positive effect on their color. Botanical origin of starch had no effect on the pH of the tested products. The proposed equation (Eq. 4), with two physical parameters κ and τ0, is in a good agreement with the experimental data and is generally better than the previous empirical equations of Ostwald-de Waele, Herschel-Bulkley and Casson.

Biography

N Ouerfelli has a PhD and Habilitation Diploma in Chemistry; he is the Head of research project in the Laboratory of Biophysics and Medical Technologies. He has published more than 45 papers in reputed journals on modeling of physicochemical properties in solution.

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