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FORMULATION, STABILITY TEST, AND PHYSICAL PROPERTIES OF CASTOR OIL EMULSION (RICINUS COMMUNIS. L) WITH VARIATION OF EMULGATORS

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ABSTRACT

An emulsion is a thermodynamically unstable heterogeneous system, consisting of at least two immiscible liquid phases, one of which is dispersed in another liquid in the form of small droplets measuring 0.1-100µm stabilized with an emulgator or surfactant. This research is an experimental study, namely making an emulsion preparation formulation from castor oil (Ricinus communis). The chemical properties of castor oil are based on the structure of ricinoleic acid, carboxylic group, hydroxyl group, and single unsaturation point. The fatty acid profiles present in castor oil are ricinoleic, oleic, stearic, palmitic, linoleic, linolenic acid, and others. The purpose of this study is to determine the type of emulgator that has the best evaluation and stability test results. Emulgator is an emulsifying agent that has an important role in emulsion stability. The castor oil emulsion formulation is prepared with three types of emulgators with 15% castor oil, 0,5% Na CMC, 3% cetyl alcohol, and 30% PGA. A good emulsion is an emulsion that does not undergo separation between the oil phase and the water phase or stable, stable emulsions are also influenced by the selection of emulgators so it needs to be considered in its selection. The evaluations carried out are organoleptic tests, viscosity, redispersion, emulsion type, pH, homogeneity, and sedimentation. A stability test is a parameter that needs to be done because it describes the resistance of an emulsion product. Stability testing is carried out by the cycling test method because it is easier and can be used to test products for possible instability.

Keywords: *Emulgator, Emulsion, Castor Oil, Stability*

(xi+50)

Bibliography (1989-2023)