Research & Reviews in Polymer

Vol 11, Iss 1

Role of Polymers as Gelling Agents in the Formulation of Emulgels

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ABSTRACT

Gels are new magnificence of semisolid estimation outlines made by ensnarement of tremendous degree of liquid and hydro-alcoholic liquid in an association with colloid stable particles like inorganic materials or common polymers of made origin or trademark. The use of novel semisolid Gels measurements has reached out in both pharmaceutical industry and cosmetics nowadays. However, gels are having many advantages of better patient compliance, avoiding first pass effect which is major drawback in delivery of hydrophobic drugs and less interaction with food and drugs. Apart from this confinement, another procedure in light of emulsion device have risen i.e., Emulgels. Different kinds of polymers are used nowadays which are performing multiple works basically as emulsifiers and thickeners. The new gelling polymers have the ability of gelation that is useful in the formulation of stable systems by decreasing the surfacial and interfacial tension, thereby increasing the viscosity of the liquid phase. In this process, the gelling administrators circuit into water stage changes over the emulsion into stable formulation of emulgel. Emulgel are basically emulsions that may be oil-in-water or water-in-oil type gets jellified which when blended with gelling agents. Emulgels acts as excellent medium for water insoluble tablets or hydrophobic tablets. Emulgel are generally used when the other forms of prescription drugs fails to respect cutaneous disorders for instance, psoriasis, and parasitic skin break out, defilements particularly. Emulgel has become important I n the field of pharmaceutical semisolid preparations.

The present research specializes in the important piece of various polymers as gelling specialists within the enumerating of emulgels. The pay attention furthermore accomplishes the novel technique for appraisal parameters and availability and of emulgels. Different kinds of new polymers are emerging these days which are showing multiple results basically as emulsifying agents and thickening agents. These new polymers have an excellent property of gelation which is useful in the preparation of stable dispersed systems. Overview and Research works of different specialists were considered and joined into the present research. The application of numerous gelling agent polymers in emulgel formulation and their several benefits offers the researchers the wide range of polymers to be used in other pharmaceutical formulations. The optimum rheological and physical properties of emulgels with greater shelf life and better patient compliance than other delivery systems are useful in the topical dosage forms formulatios.

Types of Emulgels:

➢Nano-emulgel: These emulgels have a globule size of less than 100 nm. These are formed by joining of nano-emulsion into gel.

➢Micro-emulsion based emulgel: The globule

size of this emulgel ranges from 10 to 100 nm. These emulgels have joined properties of microemulsion and gel having high bioavailability of prescription.

➢ Macro-emulsion gel: These emulgels have a globule size of more than 400 nm.

Keywords: Gelling agent polymers, Emulsified gel, Hydrophobic drug delivery, Carbomers,