

[54] COMPOSITION CONTAINING GEL

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[57] ABSTRACT

A new plastic composition which is slow dissolving in aqueous media and can be used to slowly release medication or other additive ingredients in an aqueous environment, which plastic composition is prepared by cross-linking a hydrophilic colloid such as carboxymethyl cellulose gum or alginate gum with a cross-linking agent, usually a polyol such as propylene glycol, in a relatively nonreactive water soluble carrier such as glycerol. The total composition, including the carrier, sets up into a plastic gel, the consistency of which can be varied by varying proportions of ingredients. The reaction can be speeded or driven to a more completely cross-linked state by using a catalysts such as aluminum or calcium salts. Complexing agents can be included for complexing the catalysts and releasing it slowly throughout the reaction to slow the reaction down where desired. Generally, the reaction proceeds faster in a close to neutral or basic medium at pH's ranging up to 10 or 11 and slower in an acid medium at pH of 5 and below so the rate of reaction can be controlled by adjusting the pH. Usually the composition will contain medication or cosmetic additives or ingredients and it can be molded by extrusion or the like into any predetermined form, e.g., in the form of a ring. In a preferred form, the composition has excellent pressure sensitive adhesive properties and these properties are very pronounced where the hydrophilic colloid used is carboxymethyl cellulose.

14 Claims, 4 Drawing Figures