

SOFT, HIGH OXYGEN PERMEABILITY OPHTHALMIC LENS

ABSTRACT

A low water contact lens material having high O_2 permeability, a lower water content and reduced polymer matrix size provides adequate O_2 to the cornea, but does not wick water away from the eye nor allow protein or other tear components to penetrate and deposit in the lens. Such a lens is made by polymerizing and crosslinking a prepolymer which contains a cyclic polyol with polyalkylether segments containing curable segments. The cyclic polyols consist of alkoxylated glucose or sucrose which are then reacted with an isocyanate to produce an ultraviolet curable prepolymer. The prepolymer is then placed in a mold and polymerized by exposure to ultraviolet light. The free hydroxyl groups of the material react with a highly hydrophilic reagent to form covalent bonds thus making the surface of the material more wettable.

FIGURE 1 SHOULD ACCOMPANY THE ABSTRACT WHEN PUBLISHED