



US005133745A

United States Patent [19][11] **Patent Number:** **5,133,745****Falcetta et al.**[45] **Date of Patent:** **Jul. 28, 1992**[54] **ULTRAVIOLET ABSORBING HYDROGELS**[75] **Inventors:** **Joseph J. Falcetta; Joonsup Park,** both of Arlington; **Christina G. Smith,** Haltom City, all of Tex.[73] **Assignee:** **Alcon Laboratories, Inc.,** Fort Worth, Tex.[21] **Appl. No.:** **691,160**[22] **Filed:** **Apr. 24, 1991****Related U.S. Application Data**

[63] Continuation of Ser. No. 570,486, Aug. 21, 1990, abandoned, which is a continuation of Ser. No. 198,904, May 26, 1988, abandoned.

[51] **Int. Cl.⁵** **A61F 2/16**[52] **U.S. Cl.** **623/6; 351/160 H;**
351/163; 523/108; 524/91[58] **Field of Search** 623/6; 351/160 H, 163;
524/91; 523/106, 108; 548/259; 526/259[56] **References Cited****U.S. PATENT DOCUMENTS**

3,220,960	11/1965	Wichterle	260/2.5
4,304,895	12/1981	Loshaek	526/313
4,390,676	6/1983	Loshaek	526/313
4,493,539	2/1970	Skoultchi et al.	260/47
4,528,311	7/1985	Beard	524/91

OTHER PUBLICATIONSSustic et al., *New 2(2-Hydroxyphenyl)2H-Benzotriazole**Based Polymer-Bound Ultraviolet Stabilizers*, Polymer Preprints, 28(2), pp. 226-227 (1987).Pitts et al., *Protection Against UVR Using the Vistakon UV-Bloc Soft Contact Lens*, International Contact Lens Clinic, vol. 14, No. 1, pp. 22-29 (1987).Kraff et al., *Effect of an Ultraviolet-Filtering Intraocular Lens on Cystoid Macular Edema*, Ophthalmology, vol. 92, pp. 366-369 (1985).Dickstein et al. *Functional Polymer, XXVI Co- and Terpolymers Involving Methacrylates, N-Vinylpyrrolidone, and Polymerizable Ultraviolet Stabilizers and Antioxidants*, J. Macromol. Sci-Chem., A22(4), pp. 387-402 (1985).*Primary Examiner*—Randall L. Green*Assistant Examiner*—Paul Prebilib*Attorney, Agent, or Firm*—James Arno; Sally Yeager[57] **ABSTRACT**

Two compounds, which are derivatives of 2(2-hydroxyphenyl) 2H-benzotriazole, are copolymerized with hydrogel forming monomers to form ultraviolet absorbing hydrogels. These hydrogels have many potential applications. For instance, they can be used to make contact lenses and intraocular lenses which are particularly useful for aphakics.

15 Claims, 1 Drawing Sheet