United States Patent [19]

Gould et al.

[11] **4,454,309**

[45] **Jun. 12, 1984**

[54] **POLYURETHANE POLYENE COMPOSITIONS**

[75] Inventors: **Francis E. Gould**, Princeton; **Christian W. Johnston**, Neshanic Station, both of N.J.

[73] Assignee: **Tyndale Plains-Hunter, Ltd.**, Princeton, N.J.

[21] Appl. No.: **433,481**

[22] Filed: **Oct. 8, 1982**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 206,407, Nov. 12, 1980, Pat. No. 4,359,558.

[51] **Int. Cl.**[3] **C08G 18/32**; C08G 18/67; C08G 71/04; C08F 283/04

[52] **U.S. Cl.** **525/454**; 204/159.13; 525/28; 525/455; 525/539; 525/920; 525/937; 528/75; 528/904; 521/905; 424/78

[58] **Field of Search** 525/28, 454, 455, 539, 525/920, 937; 521/905; 528/75, 904

[56] **References Cited**

U.S. PATENT DOCUMENTS

3,297,745	1/1967	Fekete et al.	525/920
3,553,174	1/1971	Hausslein et al.	528/50
3,719,638	3/1973	Huemmer et al.	525/293
3,822,238	7/1974	Blair et al.	528/904
3,931,123	1/1976	Vacik et al.	521/905
3,975,350	8/1976	Hudgin et al.	521/905
4,056,496	11/1977	Mancini et al.	521/905
4,116,786	9/1978	Hodakowski	204/159.13
4,117,184	9/1978	Erickson et al.	521/905
4,209,605	6/1980	Hoy et al.	528/54
4,246,391	1/1981	Watson	528/49
4,250,248	2/1981	Faust	525/127
4,359,558	11/1982	Gould et al.	525/454

Primary Examiner—H. S. Cockeram

Attorney, Agent, or Firm—Robert W. Kell; George F. Mueller

[57] **ABSTRACT**

Polyurethane polyene compositions are obtained by reacting from about 10 to about 50 parts by weight of a polyene in the presence of about 100 parts by weight of a hydrophilic polyurethane resin. The resulting products will swell and increase in weight upon immersion in water and are permeable to gases, moisture vapor ions, and other low molecular weight species. The hydrophilic polyurethane diacrylate compositions may be molded to form shaped products that are dimensionally stable after repeated exposure to boiling water and exhibit memory.

13 Claims, No Drawings