US005668240A

United States Patent [19]

[11] Patent Number: 5,668,240

[45] Date of Patent: Sep. 16, 1997

[54] **ENERGETIC NITRO POLYMER**

[75] Inventors:

[73] Assignee: **The United States of America as represented by the Secretary of the Navy**, Washington, D.C.

[21] Appl. No.: **704,028**

[22] Filed: **Aug. 26, 1996**

Related U.S. Application Data

[62] Division of Ser. No. 754,897, May 23, 1985, Pat. No. 5,574,125.

[51] **Int. Cl.**[6] **C08G 18/10**

[52] **U.S. Cl.** **528/66**; 149/88; 528/196; 528/271

[58] **Field of Search** 528/66, 196, 271; 149/88

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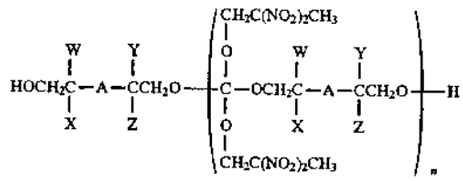
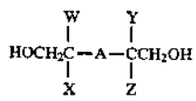
[57] **ABSTRACT**

Hydroxy-terminated poly(2,2-dinitropropyl) polynitroorthocarbonate prepolymers of the formula



which are prepared by reacting bis(2,2-dinitropropyl) dichloroformal with a diol of the formula



wherein n>1, and wherein W, X, Y, and Z vary independently and are F or NO_2, and wherein —A— is $—CH_2—$, $—CH_2CH_2—$, $—CH_2CH_2CH_2—$, $—CF_2—$, $—CF_2CF_2—$, $—CF_2CF_2CF_2—$, $—CF_2CF_2CF_2CF_2—$, $—CH_2OCH_2—$, $—CH_2OCH_2OCH_2—$, $—CH_2OCF_2OCH_2—$, or $—CH_2N(NO_2)CH_2—$. These prepolymers are reacted with curing agents (e.g., polyisocyanates) to form energetic polymeric binders.

8 Claims, No Drawings