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## (34) NITROPOLYFORMALS

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## [57] ABSTRACT

Nitropolyformals of the formula  $H-OCH_2-C-(NO_2)_2ZC(NO_2)_2CH_2OCH_2-OCH_2-C-(NO_2)_2ZC-(NO_2)_2CH_2OH$  wherein Z is  $-CH_2-$ ,  $-CH_2CH_2-$ ,  $-CH_2CH_2CH_2-$ ,  $-CH_2OCH_2-$ , or  $-CH_2NHC-H_2-$  and wherein the average molecular weight of the nitropolyformal molecules is from about 1,000 to about 50,000. The nitropolyformals are prepared by reacting a diol of the formula  $HOCH_2-C-(NO_2)_2ZC-(NO_2)_2CH_2OH$ , wherein Z is defined as above, with formaldehyde in the presence of concentrated sulfuric acid. These polymers are useful as energetic binders in explosives and propellants.

7 Claims, No Drawings