

[54] ACETALS DERIVED FROM NEGATIVELY  
SUBSTITUTED ALDEHYDES AND  
POLYNITRO- OR HALONITROETHANOLS

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[58] Field of Search: 260/615 A

[56]

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[57]

## ABSTRACT

Acetals of the formulas  $\text{CHCl}_2\text{CH}(\text{OR})_2$ ,  $\text{CCl}_3\text{CH}(\text{OR})_2$ ,  $\text{CHF}_2\text{CH}(\text{OR})_2$ ,  $\text{CF}_3\text{CH}(\text{OR})_2$ ,  $\text{RO}_2\text{CCH}(\text{OR})_2$ , and  $(\text{RO})_2\text{HCCH}(\text{OR})_2$  wherein R can be  $-\text{CH}_2\text{CYZ}(\text{NO}_2)$ ,  $-\text{CH}_2\text{CH}_2\text{CYZ}(\text{NO}_2)$ ,  $-\text{CH}_2\text{C}(\text{NO}_2)_2\text{CH}_3$ ,  $-\text{CH}_2\text{C}(\text{NO}_2)_2\text{CYZ}(\text{NO}_2)$ ,  $-\text{CH}_2\text{C}(\text{NO}_2)_2\text{CH}_2\text{CYZ}(\text{NO}_2)$  or  $-\text{CH}_2\text{C}(\text{NO}_2)_2\text{C}(\text{NO}_2)_2\text{CYZ}(\text{NO}_2)$  wherein Y and Z vary independently and can be Cl, F or  $\text{NO}_2$ . These acetals are produced by contacting a negatively substituted aldehyde such as  $\text{CHCl}_2\text{CHO}$ ,  $\text{CCl}_3\text{CHO}$ ,  $\text{CHF}_2\text{CHO}$ ,  $\text{CF}_3\text{CHO}$ ,  $\text{HO}_2\text{CCHO}$ , or  $\text{OHCCHO}$  with a negatively substituted alcohol of the formula  $\text{ROH}$  wherein R is as defined above. Either  $\text{FSO}_3\text{H}$ ,  $\text{ClSO}_3\text{H}$ , or  $\text{CHF}_2\text{SO}_3\text{H}$  or  $\text{CF}_3\text{SO}_3\text{H}$  is used to catalyze the condensation. The acetals of this invention are useful as explosives.

4 Claims, No Drawings