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[54] 1:1:2 AND 1:3 MIXED POLYNITROETHYL ORTHOCARBONATES VIA MIXED TRIALKOXYMETHYL TRICHLOROMETHYL DISULFIDES

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

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[52] U.S. Cl. 568/22; 568/590; 149/88

[58] Field of Search 568/590, 22

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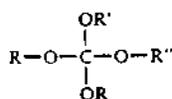
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[57] ABSTRACT

A 1:1:2 mixed orthocarbonate of the formula



wherein

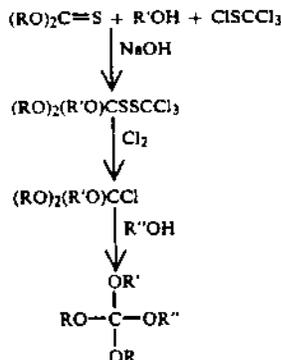
R and R'' are each one of the following groups

- CH₂C(NO₂)₂CH₃,
- CH₂C(NO₂)₃,
- CH₂CF(NO₂)₂,
- CH₂CF₂(NO₂), and
- CH₂CF₃, and

R' is one of the following

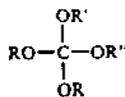
- CH₂CF(NO₂)₂,
- CH₂CF₂(NO₂), and
- CH₂CF₃,

provided that R ≠ R', R ≠ R'', and R' ≠ R''. These 1:1:2 orthocarbonates are produced by the following reaction sequence:



wherein R, R', and R'' are as defined above.

By choosing R and R'' to be the same and either —CH₂(NO₂)₂CH₃ or —CH₂C(NO₂)₃ in the above reaction, 1:3 mixed orthocarbonates of the formula



wherein R ≠ R', R'' ≠ R', R = R'', and R and R'' are each CH₂C(NO₂)₂CH₃, CH₂C(NO₂)₃, CH₂CF₂(NO₂), or CH₂CF₃.

and R' is CH₂CF(NO₂)₂, CH₂CF₂(NO₂) or CH₂CF₃ may be prepared.

21 Claims, No Drawings