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### DIETHYLVINYLPHOSPHATE

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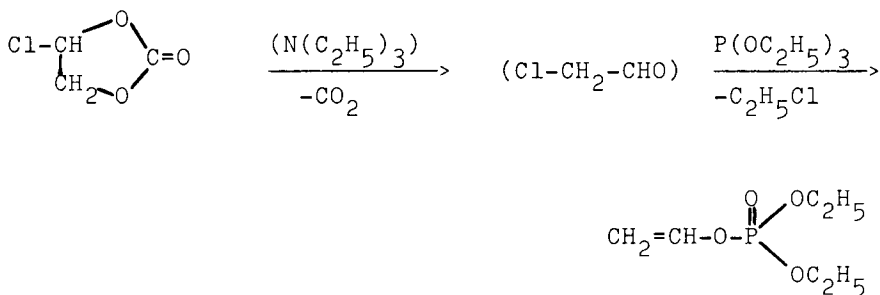
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DIETHYLVINYLPHOSPHATE

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This paper describes a simple synthesis of diethylvinylphosphate from chloroethylenecarbonate. The procedure corresponds essentially to the method which has been reported recently.<sup>1,2</sup> But the yield has been increased to 68% by the use of the following modifications. Chloroethylenecarbonate was converted to chloroacetaldehyde by heating with catalytic amounts of triethylamine. The chloroacetaldehyde formed was collected into a receiver containing triethylphosphite. Diethylvinylphosphate is obtained pure without by-products.

Experimental

Diethylvinylphosphate. A mixture of 12.25 g (0.10 mole) of freshly distilled chloroethylenecarbonate<sup>3</sup> and two drops of

H. GROSS AND B. COSTISELLA

triethylamine is heated in a distillation apparatus to an inner temperature of 165-170°C. Chloroacetaldehyde<sup>4</sup> which distills at 85-88°C is collected into a receiver heated to 75°C containing 16.6 g (0.10 mole) of triethylphosphite. The inner temperature of the receiver is maintained between 75° and 80°C during the distillation. After 60 minutes, the decomposition of the chloroethylenecarbonate is completed. The reaction mixture is then heated to 110° for 15 minutes and distilled in vacuo to give 12.3 g (68%) diethylvinylphosphate, b.p.<sup>11</sup><sub>mm</sub>. 94-95°C,  $n_D^{35^\circ} = 1.4100$ , lit.<sup>5</sup> b.p.<sub>6</sub> 69°,  $n_D^{35^\circ} = 1.4100$ .

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