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## Tertiary Carbamoylmethylphosphine Oxides and their Analogs

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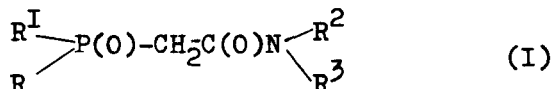
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## Tertiary Carbamoylmethylphosphine Oxides and their Analogs

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Dialkyl(diaryl)carbamoylmethylphosphine oxides (I) were prepared by interaction of tervalent phosphorous acid esters with chloracetic amides:



$\text{R}=\text{R}^{\text{I}}=\text{n-Tol}$ , Ph,  $\text{c-C}_6\text{H}_{11}$ , Bu, Et, BuO;  $\text{R}^2=\text{R}^3=\text{Et}$ .  $\text{R}=\text{R}^{\text{I}}=\text{n-Tol}$ , Ph;  $\text{R}^2=\text{R}^3=\text{Bu}$ ,  $\text{R}=\text{Ph}$ ;  $\text{R}^{\text{I}}=\text{Bu}$ , BuO,  $\text{R}^2=\text{R}^3=\text{Et}$ , Bu.  $\text{R}=\text{Ph}$ ,  $\text{R}^{\text{I}}=\text{Ph}$ , BuO;  $\text{R}^2=\text{Et}$ ,  $\text{R}^3=\text{H}$ .  $\text{R}=\text{Ph}$ ;  $\text{R}^{\text{I}}=\text{R}^2=\text{R}^3=\text{Et}$ .  $\text{R}=\text{R}^{\text{I}}=\text{R}^2=\text{R}^3=\text{Ph}$ .

The structure of (I) were established. Some of their chemical properties were investigated: Horner's reaction, formation of kalium salts, methylene group alkylation.

The structure of complexes (I) with perchloric and nitric acids were studied by potentiometric and thermometric titration methods and IR-spectra.

Complexation (I) and their analogs with  $\text{LiJ}$  were studied. The complexes of some compounds (I) with uranyl nitrate were synthesized. The structure of complexes (I) with  $\text{PF}_5$  and  $\text{TaF}_5$  were confirmed by means of the NMR  $^{19}\text{F}$  and  $^{31}\text{P}$  data.

Extraction and concentration by (I) of TFE were studied. (I), as it has been shown, are efficient extractants.

The work was carried out in collaboration with K.B.Yatsimirsky, E.I.Sinyavskaya (Kiev), Yu.A.Buslaev, E.G.II'in (Moscow), B.F.Myasoedov, M.K.Chmutova (Moscow)