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Reactions of Sodiumdiphenylphosphinoformiat

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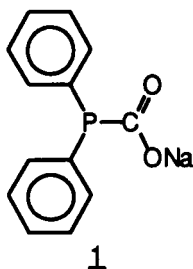
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REACTIONS OF SODIUMDIPHENYLPHOSPHINOFORMIAT

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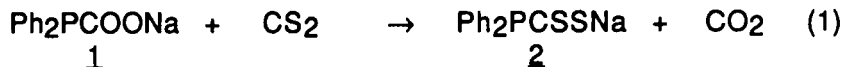
Sodiumdiphenylphosphinoformiat **1** can easily be prepared by reaction of Ph_2PNa with CO_2 [1]. Some reactions of **1** have been studied, resp. reinvestigated by us.



Thus, protolysis of **1** showed a clear dependance of pH. Two competition reaction mechanisms are discussed for the reaction in protic solvents like water and alcohols on the basis of ^{31}P - and ^1H -NMR-spectroscopic results.

With alkyl iodides RI ($\text{R}=\text{Me}$, Et) CO_2 was eliminated from **1** and alkyl diphenylphosphines Ph_2PR are formed only. Reaction with dimethylsulfate and trimethylchlorosilane gave Ph_2PCOOMe , resp. $\text{Ph}_2\text{PCOOSiMe}_3$.

When **1** reacts with CS_2 at room temperature CO_2 is spontaneously evolved and sodiumdiphenylphosphinodithioformiate Ph_2PCSSNa **2** is formed in quantitative yield according to:



Some more reactions of **1**, e.g. with O_2 and S_8 , are reported.

[1] Kuchen, W., Buchwald, H.; Chem. Ber. 92, 227 (1959)