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Phosphorus, Sulfur, and Silicon and the Related Elements

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713618290>

The Reaction of the P-N Bond in Aminophosphines with 2,4-Bis(4-methoxyphenyl)-1,3,2,4-dithiadiphosphetane-2,4-disulfide

K. Diemert^a; A. Janssen^b; W. Kuchen^b

^a Farbenfabriken Bayer AG (Erf. G. Oertel, H. Malz and H. Holtschmidt), Belg ^b Institut für Anorganische Chemie und Strukturchemie I, Universität Düsseldorf, Düsseldorf, F.R.G

To cite this Article Diemert, K. , Janssen, A. and Kuchen, W.(1987) 'The Reaction of the P-N Bond in Aminophosphines with 2,4-Bis(4-methoxyphenyl)-1,3,2,4-dithiadiphosphetane-2,4-disulfide', *Phosphorus, Sulfur, and Silicon and the Related Elements*, 30: 3, 668

To link to this Article: DOI: 10.1080/03086648708079162

URL: <http://dx.doi.org/10.1080/03086648708079162>

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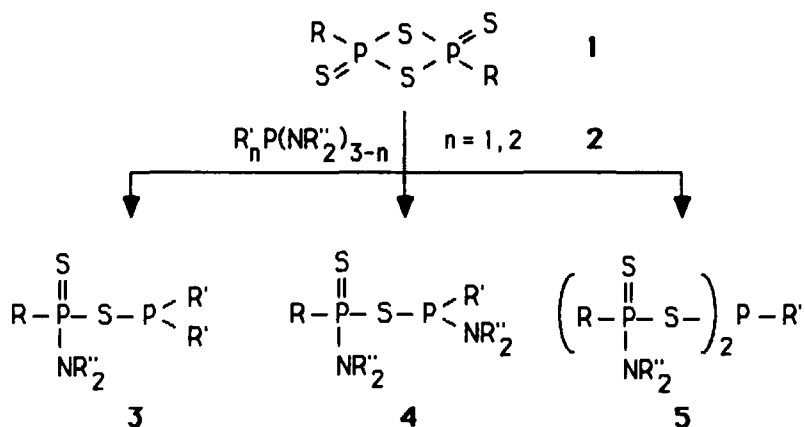
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The Reaction of the P-N Bond in Aminophosphines with 2,4-Bis(4-methoxyphenyl)-1,3,2,4-dithiadiphosphetane-2,4-disulfide

K. DIEMERT*, A. JANSSEN, W. KUCHEN,
 Institut für Anorganische Chemie und Strukturchemie I,
 Universität Düsseldorf, Universitätsstraße 1, D-4000 Düsseldorf 1, F.R.G.

The reaction of aminophosphines with perthiophosphonicanhydrides by insertion of RPS_2 -units into the P-N-bonds, leading to mixed P(III)-P(V)-sulfides, as claimed by a patent*, was reinvestigated using 2,4-Bis-(4-methoxyphenyl)-1,3,2,4-dithiadiphosphetane-2,4-disulfide (1) and various aminophosphines (2). The results show the insertion to be prevented by steric crowding in the aminophosphines (2), while otherwise mono- (3, 4) and diinsertionproducts (5) are quantitatively available by stepwise reaction:



Structure and reactions of the sulfides (3 - 5), e. g. with sulphur and metal-carbonyl-complexes, are discussed. The stereochemistry of the diinsertion-product (5) is determined by 2D- ^{31}P -nmr-spectroscopy.

* Farbenfabriken Bayer AG (Erf. G. Oertel, H. Malz and H. Holtschmidt), Belg. Pat. 623926, 1962