



Phosphorus, Sulfur, and Silicon and the Related Elements

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Synthesis of Hexaisopropyltriamidophosphite: Myth or Reality?

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Published online: 20 Jun 2008.

To cite this article: Anatoliy P. Marchenko, Georgyi N. Koidan, Yurii M. Pustovit, Mark I. Povolotskii, Aleksandr N. Chernega & Aleksandr M. Pinchuk (2008) Synthesis of Hexaisopropyltriamidophosphite: Myth or Reality?, Phosphorus, Sulfur, and Silicon and the Related Elements, 183:2-3, 797-798, DOI: [10.1080/10426500701808184](https://doi.org/10.1080/10426500701808184)

To link to this article: <http://dx.doi.org/10.1080/10426500701808184>

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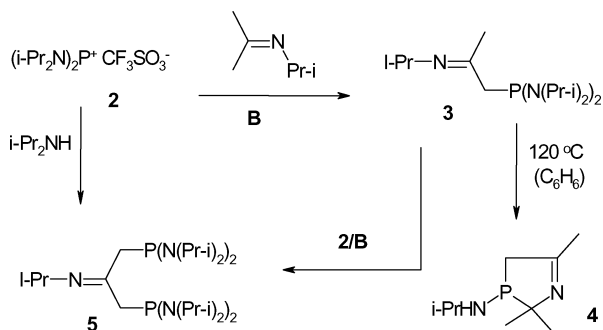
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Synthesis of Hexaisopropyltriamidephosphite: Myth or Reality?

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Results of our work allowed us to assert that the methods for synthesis of triamide ($(i\text{-Pr}_2\text{N})_3\text{P}$ **1**) described are wrong.^{1–4} It was shown that diamidohalogenphosphites ($(i\text{-Pr}_2\text{N})_2\text{PHlg}$ (Hlg = Cl, Br, I) do not react with di(isopropyl)amine even under harsh conditions such as heating up to 240°C in various solvents. At the same time, less sterically hindered phosphonium cation **2** easily react with di(isopropyl)amine, affording diphosphine **5** instead of the expected triamide **1**. The diphosphine **5** is also formed in the reaction of the phosphonium cation **2** with ketimine $i\text{-PrN}=\text{CMe}_2$, with the reaction running via formation of monophosphine **3**.



In conclusion we must note that an approach to triamide **1** has to be found yet.

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