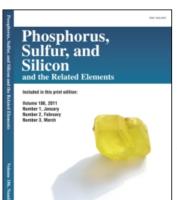
This article was downloaded by:

On: 29 January 2011

Access details: Access Details: Free Access

Publisher Taylor & Francis

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



## 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

## Diamidophostes as Precursor for Phosphonitride Glasses

P. Vasta; G. Palavita; Y. Parenta

<sup>a</sup> Laboratoire de Chimie Appliquée of the Université des Sciences et Techniques de Lille Flandres Artois,

**To cite this Article** Vast, P., Palavit, G. and Parent, Y.(1990) 'Diamidophostes as Precursor for Phosphonitride Glasses', Phosphorus, Sulfur, and Silicon and the Related Elements, 51: 1, 481

To link to this Article: DOI: 10.1080/10426509008041005 URL: http://dx.doi.org/10.1080/10426509008041005

Taylor 6.Fr

## PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: http://www.informaworld.com/terms-and-conditions-of-access.pdf

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

DIAMIDOPHOSTES AS PRECURSOR FOR PHOSPHONITRIDE GLASSES

P.VAST, G.PALAVIT, and Y.PARENT Laboratoire de Chimie Appliquée of the Université des Sciences et Techniques de Lille Flandres Artois, F59655 Villeneuve d'Ascq

Phosphate glasses are of potential interest because of their low melting points and high thermal expansion coefficient. The chemical durability of these glasses can be improved considerably by substitution of some oxygen ions by nitrogen. This substitution improves the mechanical properties and chemical durability. The substitution of oxygen may be obtained by doping the melt with nitrides or remelting the glass in ammonia [1].

We presently are developing new ways to obtain nitrophosphates glasses by thermic decomposition of diamido -orthophosphates.

The diamido- orthosphate acid presents two forms at low temperature; one of these forms may be descrived by a zwitter- ion such as the sulfamic acid. With aging or by heating up to 90°C we obtain a polymeric form. We present our results obtained by spectrospocic means.

By heating at 900°C we lost the quasi totality of the nitrogen. But with salts of diamido- orthosphate with have still about 10% of nitrogen at 900°C. We discuss the mechanism of formation of the polymeric form obtain by heating these salts.

[1] M. R. Reidmeyer, M. Rajaram, D.E. Day, Journal of non crystalline Solid <u>85</u> 186 (1986)