

This article was downloaded by:

On: 28 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>

### Synthesis and Therapeutic Use of Dimephosphone

Andrew Wisel<sup>a</sup>; Irene Studentsova<sup>b</sup>; Abdurakhim Muslinkin<sup>a</sup>; Ramil Garaev<sup>b</sup>; Valeriy Danilov<sup>b</sup>; Lidia Schukina<sup>a</sup>; Rofia Khafizyanova<sup>b</sup>; Lily Ziganshina<sup>b</sup>

<sup>a</sup> The Arbuzov Institute of Organic and Physical Chemistry Kazan Scientific Centre of the Russian Academy of Sciences, Kazan, Russia <sup>b</sup> Kazan Medical University, Kazan, Russia

**To cite this Article** Wisel, Andrew , Studentsova, Irene , Muslinkin, Abdurakhim , Garaev, Ramil , Danilov, Valeriy , Schukina, Lidia , Khafizyanova, Rofia and Ziganshina, Lily(1999) 'Synthesis and Therapeutic Use of Dimephosphone', Phosphorus, Sulfur, and Silicon and the Related Elements, 147: 1, 427

**To link to this Article:** DOI: 10.1080/10426509908053693

**URL:** <http://dx.doi.org/10.1080/10426509908053693>

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.

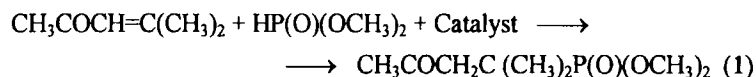
The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any 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.

## Synthesis and Therapeutic Use of Dimephosphone

ANDREW WIESEL<sup>a</sup>, IRENE STUDENTSOVA<sup>b</sup>,  
ABDURAKHIM MUSLINKIN<sup>a</sup>, RAMIL GARAEV<sup>b</sup>,  
VALERIY DANILOV<sup>b</sup>, LIDIA SCHUKINA<sup>a</sup>,  
ROFIA KHAFIZYANOVA<sup>b</sup> and LILY ZIGANSHINA<sup>b</sup>

<sup>a</sup>The Arbuzov Institute of Organic and Physical Chemistry, Kazan Scientific Centre  
of the Russian Academy of Sciences, Kazan, 420088 Russia and <sup>b</sup>Kazan  
Medical University, Kazan, 420012 Russia

The synthesis of dimephosphone (1) was carried out on Pudovik's reaction.



For industrial purposes the new continuous technology of production of (1) as a medicinal preparation has been worked out. Explosive interaction of small portions of substances occurs under synchronous pulsing injection of reagents in the flowing chamber of the reactor. The method provides the yield > 70 % and the purity > 99% of dimephosphone. Low toxicity of dimephosphone, its antagonism with cholinesterase inhibitors, cerebroprotective activity, its normalizing effects on the system of cerebral hemodynamic control and membranoprotective effects have been experimentally established. Dimephosphone is effective in cerebro-vascular brain disorders, ischemic and hemorrhagic strokes, brain traumas. In neurosurgery it is administered before and after operation. Dimephosphone reduces neurologic deficiency, including autonomic disregulation. The use of dimephosphone reduces mortality and accelerates recovery. Dimephosphone is applied locally to treat wounds, inflammatory and allergic diseases in dermatology, stomatology, and otorhinolaryngology.