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## Electrochemical reactions of white phosphorus

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### Abstract

The main electrochemical transformations of elemental (white) phosphorus were considered. Special attention was given to the recently developed processes of preparation of organophosphorus compounds (OPCs) with phosphorus-carbon bonds. The electrochemical approaches to the synthesis of OPCs from white phosphorus using organonickel and organozinc reagents are described. The importance of using the electrochemical methods for the generation of highly reactive phosphorus intermediates was shown for phosphine oxide  $\text{H}_3\text{PO}$  obtained for the first time. This provides significant prospects for the electrochemical approaches that could be applied for the development of technologies of the chlorine-free synthesis of OPCs from white phosphorus. © 2012 Springer Science+Business Media New York.

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### Keywords

activation, electrochemistry, electrosynthesis, phosphine oxide, phosphorus compounds, white phosphorus