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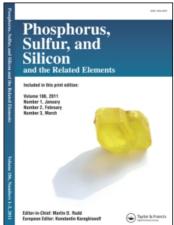
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Sodium and Onium Persorate Salts as Decontaminants of Neutotoxic Organophosphorus Compounds

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SODIUM AND ONIUM PERBORATE SALTS AS DECONTAMINANTS OF NEUTOTOXIC ORGANOPHOSPHORUS COMPOUNDS

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We compare the Sodium Perborate and various Phosphonium and Ammonium Perborates in their abilities to hydrolyse a series of phosphoric and phosphonic acid esters [OP].

We point out the participation of the Perborate anion as effective and active species in nucleophilic attack on neutral esters [OP] under mild conditions.

The rate constant equation K_{obsd} (eq.1), supported this participation, confirming its identification as a " ≪ effet".

(eq.1)
$$K_{obsd} = -d[OP]/dt = (K_s[H_2O] + K_{OH}[HO^-] + K_{HOO}[HOO^-] + K_{BOO}[BOO^-])$$
 [OP].

Our study shows a relationship between activity of the BOO anion and the nature of the counter-ion P+R4 or N+R4. The tensioactive properties of some P+R4 BO3 salts with lipophilic long chain alkyl groups R, permit that a micellar catalysis takes place in the hydrolysis of such esters [OP]. Then an important rate enhancement is observed.