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## Phosphorus, Sulfur, and Silicon and the Related Elements

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### Comparative EI, CI and FAB Mass Spectrometry of Dialkyl and Monoalkyl 2-Chloroethylphosphonates

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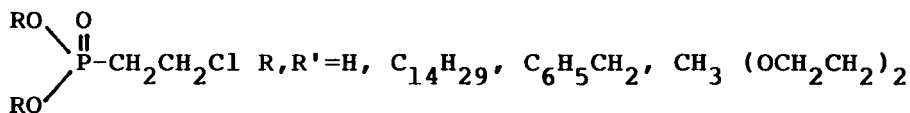
## COMPARATIVE EI, CI AND FAB MASS SPECTROMETRY OF DIALKYL AND MONOALKYL 2-CHLOROETHYLPHOSPHONATES

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Comparison is made between electron ionization (EI), methane, isobutane and ammonia chemical ionization (CI) and fast atom bombardment (FAB) mass spectrometry of phosphonates related to 2-chloroethylphosphonic acid



The last both methods are successful in obtaining  $|M+H|^+$  ions.  $\text{NH}_3/\text{ICMS}$  and  $\text{FABMS}$  give respectively  $|M+\text{NH}_4|^+$ ,  $|2M+H|^+$  and others molecular association ions, making them of a great reliability for molecular weight determination and analysis of mixtures. The significant fragmentation ions can be deduced chiefly from CI spectra as the result of neutral fragments ( $\text{HCl}$ ,  $\text{R}$ ,  $\text{R}'$ ) loss from molecular ions.

The compounds on study were synthesized from the parent 2-chloroethylphosphonic dichlorid (1).

(1) F. Plénat, I. Sanusi, H.J. Cristau, *Synthesis*, (11), 912 (1988).