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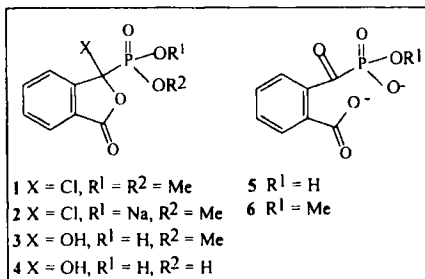
Reactions of 3-Chloro-3-(Dimethylphosphono) Isobenzofuranone and its Derivatives

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3-Chloro-3-(dimethylphosphono)isobenzofuranone (1), obtained by the reaction of phthaloyl dichloride with $(\text{MeO})_3\text{P}$ can be monodemethylated to sodium 3-chloro-3-(methylphosphono)isobenzofuranone (2) by NaI, or hydrolyzed to 3-hydroxy-3-(methyl)phosphonoisobenzofuranone (3 and 4), depending on the reaction conditions. The ^{31}P nmr spectra of hydroxyphosphonoisobenzofuranones 3 and 4 were found to be pH dependent. Raising the pH of the solutions to 10 caused reversible changes in the spectra of 3 (^{31}P δ = 10.2 ppm) and 4 (^{31}P δ = 8.96 ppm) consistent with opening of the isobenzofuranone ring and the formation of *ortho*-(phosphonoformyl)benzoate anions 5 (^{31}P δ = 0.89 ppm) and 6 (^{31}P δ = 0.19

ppm). Analogous changes were also observed in the ^{13}C nmr spectra of the compounds. 3-Chloro-3-(dimethylphosphono)-isobenzofuranone (1) reacts rapidly with aliphatic amines and with amino acids at room temperature to give phthalimides in high yields thus providing a new convenient synthetic method to such



compounds. **Acknowledgment** J. K. thanks the Rabin Foundation in Denmark for a generous grant.