A NEW METHOD OF SYNTHESIZING N-SUBSTITUTED ISOPHTHALIMIDES

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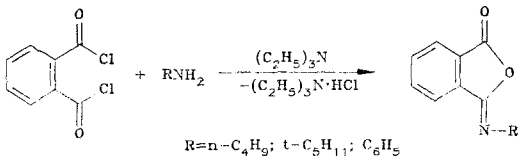
N-Substituted isophthalimides are obtained by the dehydration of N-substituted phthalamic acids [1].



We have established that N-isophthalimides are formed rapidly and in good yields by the interaction of equimolar amounts of phthaloyl chloride and a primary amine using triethylamine as dehydrochlorinating agent. A solution of 0.01 mole of phthaloyl chloride in 100 ml of absolute benzene was added at 20°C to 100 ml of a benzene solution containing 0.01 mole of N-butylamine, tert-amylamine, or aniline, and 0.04 mole of triethylamine, and the mixture was kept for 5 min and filtered, and the filtrate was washed with 4 250 ml of water. The benzene was distilled to give: n-butylisophthalimide, oil, yield 91%; tert-amylisophthalimide, mp 82-83°C, yield 92%; and phenylisophthalimide, mp 118-119°C, 94%. The individuality of the compounds was checked by TLC on Silufol UV-264 with acetone—hexane (1:5), the spots being detected in UV light (quenching) and with ninhydrin (red colorations). The compositions of the N-substituted isophthalimides obtained were confirmed by elementary analysis and their structure by IR and mass spectra.

LITERATURE CITED

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