REDISTRIBUTION REACTION IN THE SYSTEM: DIALKYL PHOSPHITE – DIALKYL CHLOROPHOSPHITE

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We found that the following redistribution reaction excists in the system: dialkyl phosphite – dialkyl chlorophosphite

$$(RO)_2P(O)H + (R'O)_2PCl \rightleftarrows (RO)_2PCl + (R'O)_2P(O)H$$

Thus, when a mixture of 7 g of diethyl phosphite and 11.2 g of di-(2-chloroethyl)chlorophosphite was heated at 100-120°C for 1 h we isolated 2.5 g (32%) of diethyl chlorophosphite with bp 34-35° (10 mm); n_D^{20} 1.4370; δ_{P31} – 165 ppm (see [1, 2]), and 4 g (38%) of di-(2-chloroethyl)phosphite with bp 90-92° (0.08 mm); d_4^{20} 1.4015; n_D^{20} 1.4708; δ_{P31} – 8 ppm; J_{P-H} 714 Hz. Found: C 23.28; H 4.43; P 14.60%. $C_4H_9Cl_2O_3P$. Calculated: C 23.19; H 4.34; P 14.97% (see [3]).

As a result, a reaction was found where compounds with a tetracoordinated phosphorus atom (dialkyl phosphites) are converted to derivatives with a tricoordinated phosphorus atom (dialkyl chlorophosphites).

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