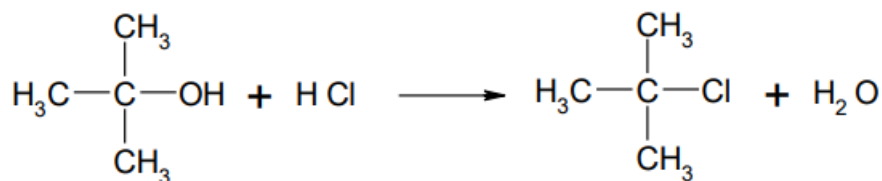


tert-BUTYL CHLORIDE



Reagents:

- Tert-butyl alcohol (16 ml)
- HCl conc. (43 ml)
- CaCl_2 (5 g)
- 5% NaHCO_3 (10 ml)

Apparatus:

- 100 ml separating funnel
- 100 ml beaker
- 100 ml round-bottomed flask
- condenser with distillation insert
- 100 ml conical flask with stopper
- ground-glass thermometer 150 °C
- glass rod
- funnel

In the separating funnel are placed 16 ml of tert-butyl alcohol, 43 ml of concentrated HCl and 5 g of anhydrous CaCl_2 (this increases the density of the acid layer, which facilitates the separation of the layers and improves the yield of the product somewhat). The contents of the separating funnel are shaken vigorously and allowed to stand for a few minutes. This is repeated several times over a period of 20 minutes; after each shaking, the cap of the separating funnel is opened briefly (to equalise the pressure). The mixture is left to stand for a few minutes until the layers separate clearly, then the lower layer is separated and discarded, while the upper layer is washed successively with 10 ml of water, 10 ml of a 5 % solution of sodium bicarbonate and dried with anhydrous calcium chloride. After draining off the drying agent, the product is distilled by collecting tert-butyl chloride at 49-51°C. Approximately 12 g (90%) of t-butyl chloride is obtained ($n_D^{20} = 1.38$) boiling 51°C.