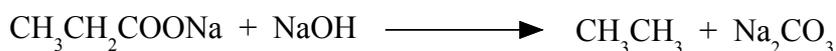


Chemguide – answers

CARBOXYLIC ACIDS: DECARBOXYLATION

1. a) It is made by adding sodium hydroxide solution to calcium oxide, and is essentially a mixture of sodium hydroxide, calcium oxide and calcium hydroxide.
- b) It is safer and cleaner to handle. Solid sodium hydroxide absorbs water from the atmosphere and turns into a very corrosive concentrated solution. Soda lime doesn't do this to the same extent.
- c) Decarboxylation involves the removal of the carboxyl group (either as -COOH or, in a salt, for example, -COONa) from an acid or its salt. In the case of sodium propanoate, $\text{CH}_3\text{CH}_2\text{COONa}$, the -COONa group is removed and replaced by a hydrogen atom to give ethane, CH_3CH_3 .



(You could write the ethane as C_2H_6 , but it doesn't show what is going on so clearly)

