

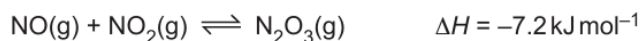
8. Reaction kinetics

8.1 Rate of reaction

Paper 2

Question Paper

- 1 NO and NO₂ react at 25 °C to give N₂O₃ as shown in the equation.



The reaction is reversible and reaches equilibrium in a closed system.

- (a) Fig. 2.1 shows how the rate of the forward reaction changes with time.

Initially, the rate of the reverse reaction is zero.

Complete Fig. 2.1 to sketch how the rate of the **reverse** reaction changes with time.

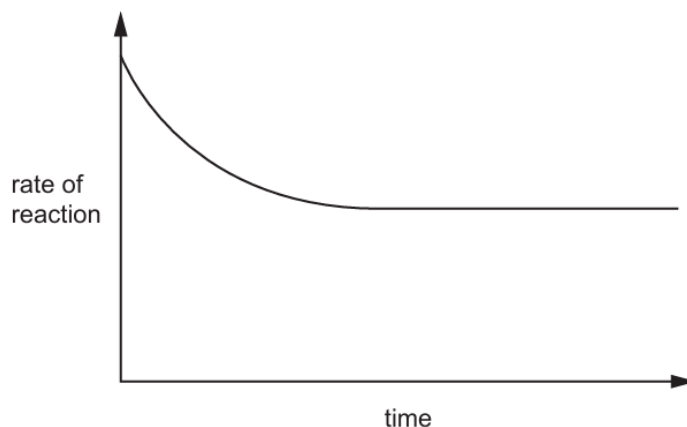


Fig. 2.1

[1]

- 2 A large excess of 2-bromo-2-methylpropane is added to 0.0010 mol of NaOH(aq), which contains a few drops of phenolphthalein indicator. A stopwatch is started as soon as the substances are mixed. The time taken for the pink colour to disappear is recorded.

The experiment is repeated at different temperatures, keeping all concentrations and volumes of reagents constant.

temperature / °C	time taken for pink colour to disappear / s
20	300
25	65
35	20

- (a) Explain what is meant by the term *rate of reaction*.

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 [1]