

Chemguide – questions

K_p

1. In the reaction between ethene and steam to make ethanol, the equilibrium mixture contained

- 95 moles of ethene
- 55 moles of steam
- 5 moles of ethanol

a) Calculate the mole fraction of each of these compounds in the equilibrium mixture.

b) If the equilibrium was reached at 60 atmospheres pressure, calculate the partial pressure of each component.

c) The reaction is



Write an expression for K_p for this reaction.

d) Use the values that you have calculated in part (b) to work out a value for the equilibrium constant at the temperature that the reaction was carried out. What units would the equilibrium constant have?

2. Write expressions for K_p for each of the following equilibria. Take care to notice whether they are homogeneous or heterogeneous equilibria.

