

## Chemguide – questions

### THE CONTACT PROCESS

1. In the Contact Process, write equations for the following stages:
  - a) the formation of sulphur dioxide;
  - b) the conversion of sulphur dioxide into sulphur trioxide;
  - c) the conversion of sulphur trioxide into concentrated sulphuric acid.
2. State the conditions for the conversion of sulphur dioxide to sulphur trioxide:
  - a) proportion of sulphur dioxide to oxygen in the reaction mixture;
  - b) temperature;
  - c) pressure;
  - d) catalyst.
3. The conversion of sulphur dioxide to sulphur trioxide is reversible, with the forward reaction forming sulphur trioxide being exothermic.

There are a number of ways that the choice of conditions affects the process:

- their effect on the position of equilibrium;
- their effect on the rate of the reaction;
- their effect on the economics of the process.

By considering each of these (where relevant), explain the choice of the conditions you gave in question 2 with respect to

- a) the proportion of sulphur dioxide to oxygen;
- a) the choice of temperature;
- b) the choice of pressure;
- c) the use of the catalyst.