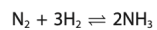


Haber Process (optimisation reasoning)

Q1. (2019) – 7b (ii, iii)

(d) Ammonia is used to make hydrazine.

In the industrial process to manufacture ammonia, nitrogen and hydrogen are combined in the presence of an iron catalyst.



A)

(ii) Predict the effect that adding the catalyst has on the rate of attainment of equilibrium.

(1)

B)

(iii) Predict the effect that adding the catalyst has on the equilibrium yield of ammonia.

(1)