Check Homework

1 2

6. $C_{(s)} + H_2O_{(g)} + \text{heat} \rightleftharpoons CO_{(g)} + H_{2(g)}$

a) lower temp. ←

b) inc. pressure ←

c) remove H_2 →

d) add $H_2O_{(g)}$ →

14. $N_{2(g)} + 3H_{2(g)} \rightleftharpoons 2NH_{3(g)}$

$$K = \frac{[NH_{3(g)}]^2}{[N_{2(g)}][H_{2(g)}]^3}$$

$$2Al + 3CuSO_4 \rightleftharpoons 3Cu + Al_2(SO_4)_3$$

init 1.87g 9.65g

eqm. 3.65g

$$\%\,rxn = \frac{exp.}{theor.} \times 100\%$$

$$\%\,rxn = \frac{3.65g}{3.84g} \times 100\%$$

$$= 95.1\%$$

If Al is L.R.

$$1.87g\,Al \times \frac{1\,mol\,Al}{26.98g\,Al} \times \frac{3\,mol\,Cu}{2\,mol\,Al} \times \frac{63.54g\,Cu}{1\,mol\,Cu} = 6.606g\,Cu$$

If $CuSO_4$ is L.R.

$$9.65g\,CuSO_4 \times \frac{1\,mol\,CuSO_4}{159.60g\,CuSO_4} \times \frac{3\,mol\,Cu}{3\,mol\,CuSO_4} \times \frac{63.54g\,Cu}{1\,mol\,Cu} =$$

$3.842g\,Cu$

$\therefore CuSO_4$ is L.R.

Worksheet