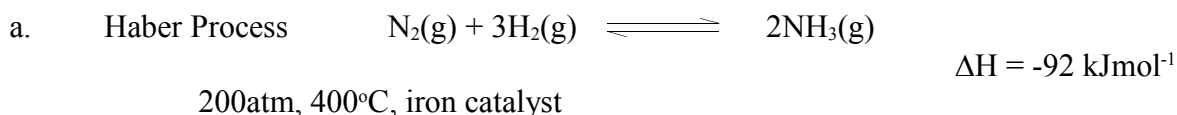
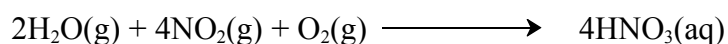
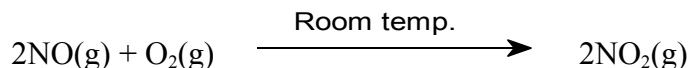
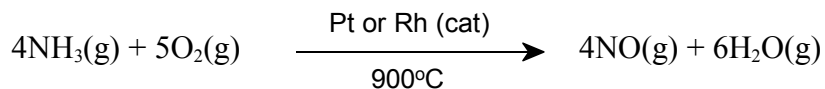


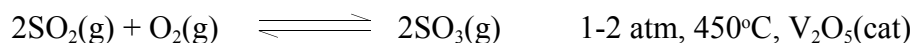
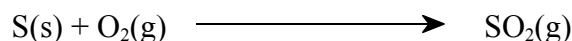
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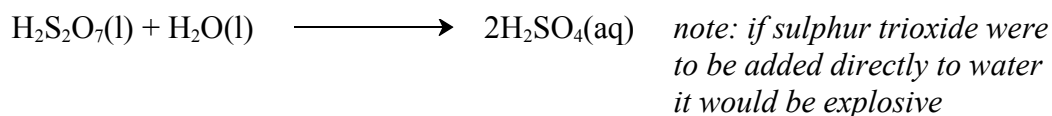
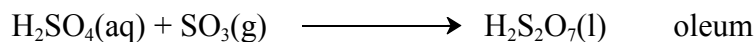
Conversion to nitric acid



b. Contact Process



mixed in ratio 1 : 1



c. Kinetics and equilibrium issues of the above reactions

d. compound

uses

ammonia

preparation of nitric acid
production of ammonium nitrate and ammonium sulphate fertilizers

nitric acid

production of ammonium nitrate
production of explosives (e.g. TNT)

sulphuric acid

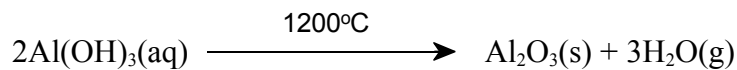
production of detergents, fertilizers, dyes & pigments



e. Extraction of aluminium

Bauxite contains $\text{Al}_2\text{O}_3(\text{s})$

bauxite + hot conc. $\text{NaOH}(\text{aq}) \rightarrow \text{Al}(\text{OH})_3(\text{aq}) + \text{solid impurities (filtered off)}$

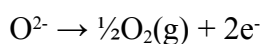


The purified $\text{Al}_2\text{O}_3(\text{s})$ electrolysed

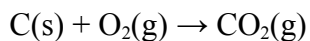
* cryolite used as solvent (Na_3AlF_6)

* temperature of 1000°C

Anode:

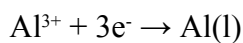


* carbon anode burns with the oxygen formed



this releases heat which keeps the solution hot enough

Cathode:



* molten aluminium is run off.

* cathode also made of carbon

f. Uses of aluminium

Properties

low density
good conductor of electricity
resists corrosion

Uses

aircraft
power cables