

Chapter: 10 (Acids and Alkalis)**T.B Question 6.**

a) What are the raw materials for the process?

Ans: Sulfur, air and water.

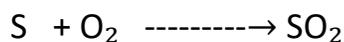
b) Draw a flow diagram of this process and write the word equations.

Ans:

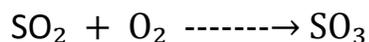
diagram pg-135

Equations:

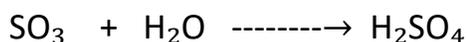
i) Sulfur + Oxygen \rightarrow Sulfur dioxide



ii) Sulfur dioxide + Oxygen \rightarrow Sulfur trioxide



iii) Sulfur trioxide + Water \rightarrow Sulfuric acid



c) What is the catalyst used in the process?

Ans: Vanadium (v) oxide, V_2O_5

d) In the last step, why don't we dissolve the sulfur trioxide in water?

Ans: If we use water to absorb the sulfur trioxide in stage 3, a fine mist of H_2SO_4 would be formed. This can't be condensed and would pollute the air.

e) Draw a spider diagram showing the uses of sulfuric acid .

Ans:



T.B Question 10.

Here is a list of some soluble salts.

Sodium nitrate, NaNO_3

Potassium chloride, KCl

Magnesium sulfate, MgSO_4

Calcium chloride, CaCl_2

Lead nitrate, $\text{Pb}(\text{NO}_3)_2$

a) Choose a pair of salts you could mix to make the insoluble salts:

i) Lead nitrate

Ans: Lead nitrate and Potassium chloride

ii) Calcium sulfate

Ans: Calcium chloride and Magnesium sulfate

b) How would you collect a pure sample of each salt?

Ans: To collect a pure sample of each salt we have to centrifuge it. After centrifuging, the solid is packed at the bottom. The solution above can be poured off. The precipitate is then washed and dried.

c) Write word, symbol and ionic equation for each salts.

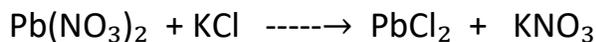
Ans:

i) Lead chloride

word equation:

Lead nitrate + Potassium chloride \rightarrow Lead chloride + Potassium nitrate

Symbol equation:



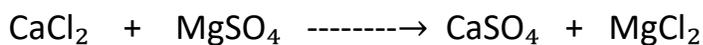
Ionic equation:



iii) Calcium sulfate

Calcium chloride + Magnesium sulfate \rightarrow Calcium sulfate + Magnesium chloride

Symbol equation:



Ionic equation:

