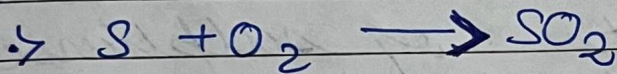
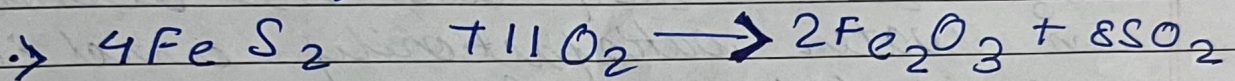


# Sulphuric Acid

Oil of vitriol - sulphuric acid

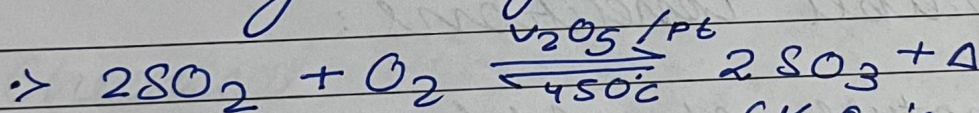
Manufacture of Sulphuric Acid  
- (Contact Process)

## 1. Production of Sulphuric Acid



## 2. Purification of gases

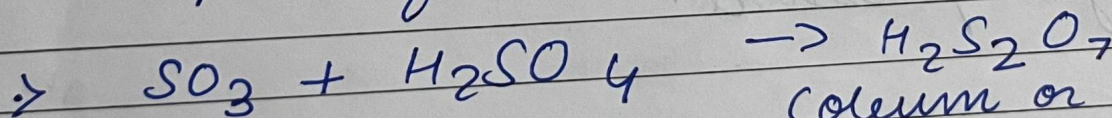
## 3. Catalytic oxidation of $SO_2$



( $K_2O$  is used as promoter)

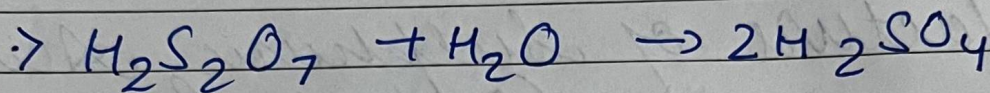
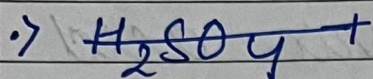
Exothermic reaction

## 4. Absorption of $SO_3$ in $H_2SO_4$ (acid)



oleum or  
pyrosulphuric acid

5. Dilution of oleum to obtain  $H_2SO_4$



NOTE:  $SO_3$  on dissolving in water can produce sulphuric acid.  ~~$SO_3 + H_2SO_4 \rightarrow$~~   
 $SO_3 + H_2O \rightarrow H_2SO_4$  does not dissolve in water satisfactorily and it gives a lot of heat and forms misty droplets of sulphuric acid so it is not directly absorbed by water

Favourable conditions:

1. Temperature should be as low as possible (~~low~~  $\rightarrow$   $\therefore$  The reaction is exothermic)
2. High pressure.

3.11

Excess of oxygen ( $\because$  it increases the production of  $SO_3$ )

4. Use vanadium pentoxide ( $V_2O_5$ )  
( $\because$  platinum is expensive)

### $\rightarrow$ Properties of Sulphuric Acid

$\rightarrow H_2SO_4$  forms a constant boiling mixture at  $338^\circ C$  containing 98.5% of the acid.

$\rightarrow$  Concentrated  $H_2SO_4$  is highly corrosive and chars the skin black.

### $\rightarrow$ Chemical Properties

#### 1. Acidic property

