

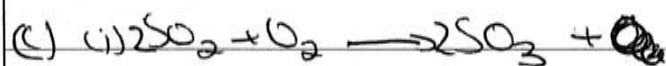
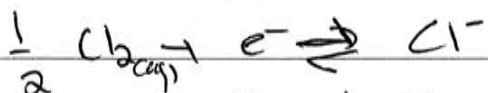
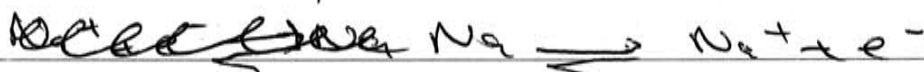
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32) (a) ~~Diaphragm~~ ^{Membrane} cell is used to extract sodium hydroxide.

Brine water goes through the cell and turns into Sodium amalgam. The sodium amalgam gets decomposed ~~into~~ sodium hydroxide. Throughout the cell there is a pump that gets in water which then gets converted ~~by~~ to hot water by the cooler.

(b) ~~Water~~ sodium chloride is ~~added~~

Aqueous sodium chloride is dissolved with water. ~~It is present in the decomposition of sodium amalgam when it enters the decomposer dissolved with water.~~ When Brine enters the membrane cell it gets electrolysed and chlorine comes out leaving the sodium which then reacts with the hydroxide ions present in the cell.



$$K = \frac{[\text{SO}_3]^2}{[\text{SO}_2][\text{O}_2]}$$

$$= \frac{(0.5)^2}{[0.5][0.4]}$$

$$= \frac{(0.5)^2}{[0.5]^2[0.4]} = 6.94$$

$$= \frac{(0.5)^2}{[0.5]^2[0.4]}$$

(ii) A new equilibrium position was established at B because ~~at~~ the volume was reduced which caused the molecules to collide and then the reaction was faster. Therefore a new equilibrium is reached since the 0.4 moles of O_2 are used up.

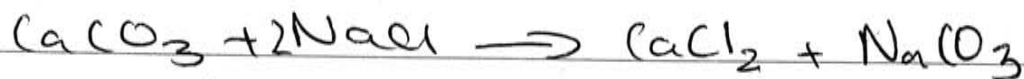
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(i) This is a condensation reaction. Reactant A is $\text{COOH}(\text{C}_2\text{H}_4)_2\text{CH}_3$.

(ii) Use a specific ~~volume~~ volume of oil and heat it with a bunsen burner with glycerol. Heat it until its yellow colour for about fifteen minutes. Then place the solution in a cold bath. Until it becomes solid - Drain off the liquid and remove all mixture and place it on a sheet of paper. This will dry it and it looks like the soap. ~~Wear~~ Safety goggles are to be worn to ~~see~~ avoid and splashes. Hair needs to be tied back ~~so~~, so it ~~won't~~ will not catch fire from the bunsen burner. Control heating is to be done to avoid the overflowing of the solution. Constant stirring is to be done, so it won't clump together.

(e) Solway process is very important process for the production of sodium carbonate. Sodium carbonate is then used to make glass. This process ~~is~~ requires the use of limestone with sodium chloride.



Using limestone will cause environmental

impact . When limestone is used it could
cause soil degradation.

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