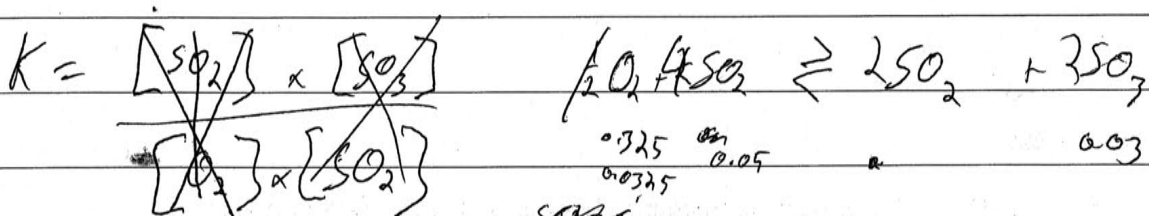


Start here.

a) Electrolytic Cell, Brine is electrolysed, which separates Na from Cl. Because the sodium is Na^+ , it goes to the cathode, and chlorine is extracted from the anode. The Na^+ is then extracted and mixed with water. $\text{Na}^+ + \text{H}_2\text{O} \rightarrow \text{NaOH} + \frac{1}{2}\text{H}_2$. The hydrogen is extracted as gas and the product remains.

b) $\text{NaCl} \rightarrow \text{Na}^+ + \frac{1}{2}\text{Cl}_2$ The electrolysis of molten NaCl is much more pure, but far more costly. In Brine, the electrolysis also affects the water, so energy is lost through electrolysis of water.
 $\text{H}_2\text{O} \rightarrow \text{H}_2 + \frac{1}{2}\text{O}_2$



$= \frac{[\text{SO}_2] \times [\text{SO}_3]}{[\text{O}_2]}$

$= \frac{[\text{SO}_2] \times [\text{SO}_3]}{[\text{O}_2]}$

$K = 110.77$

*) A new equilibrium position was established because of a change in the pressure. There are fewer moles on the right hand side with SO_2 , so the pressure has increased; the volume has decreased.

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Start here.

i) Emulsification, a mixture of tiny droplets of one mixture suspended in another.

ii) Precautions: ~~get~~ grip on shoes to prevent slipping in any spilled oil.

e) Limestone (CaCO_3) is ~~is~~ combusted in the Solvay process to produce CaO and CO_2 . CaO is vital to the Solvay process, but it impacts the environment greatly.

The release of CO_2 contributes to the effect of climate change which is a huge negative impact on our environment.

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