Introduction to acids

Definition - Arrhenius Rule

- Hydrogen-containing covalent compound that dissolves in → ionization (离子他) water to ionize H+ as the only positive ion
- [H+] > [OH-]
- 60.
 - > HC | cag) -> H+ + C|-
 - $> H_2SO_4 (ag) \rightarrow 2H^+ + SO_4^2$

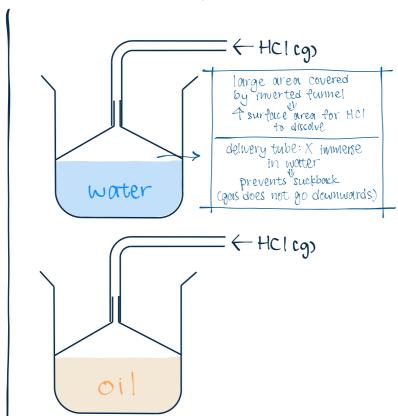
2 Acidic properties

- tastes sour
- conducts electricity (: 1 mobile rons)
- reacts w/ bases/other substances

3 Importance of water to acids

- acids must be dissolved in water to possess acidic properties (Arrhenius rule: "... dissolves in water to ionize H+ ... " -> X water = X H+)

EXPERIMENT TO DEMONSTRATE WATER'S IMPORTANCE



- 1. Pump HClop into water and oil respectively.
- 2. Use blue litmus paper to test if the liquids are acids.
 - > water: blue > red
 - > oil: remains blue

Tonly HCI dissolved in water exhibits acidic properties

- 可不可以用力口Iron→看有沒有OC (应是colourless gas bubbles) 的方法判断是不是acid?
 - 与不可以二

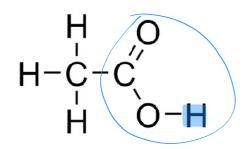
与 oil-开始也会有气泡(泵气进液体自然会产生气泡),但之后因 HCl 溶进油里了(Hcl为 SMS,并且 non-polar, like dissolves like)气泡会消失

4 注意点

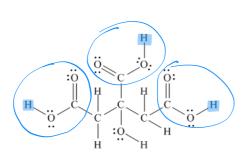
- 1. Dilute acids不一定是corrosive,保险起见写irritant较好
- 2. Acidic gous (除了Coz)都是 corrosive (吸入体内,在肺泡小量的水 ionize 成 acid⇒ concentrated)
- 3. 如果acid有cooH,则只有cooH里面的H才会ionize成H*
 - Cid Molecule 里面Hatoms的数量不代表acid (completely ionize后)掉落Hi的数量

表的向pH

- eg 1. CH3 COOH => CH3 COOT + H+



eg2. citric acid (tribusic)



5 Acids 的分类

- 1. Strong us weak acids
- 2. conc. vs dilute acids
- 3. basicity
- 4. mineral acid us organic acid
 - obtained from minerals / living things
 - mineral acids: HCI, HzSO4, HNO3, HzPO4...
 - organic acids: CH3 coot (ethanoic acid), citric acid ...