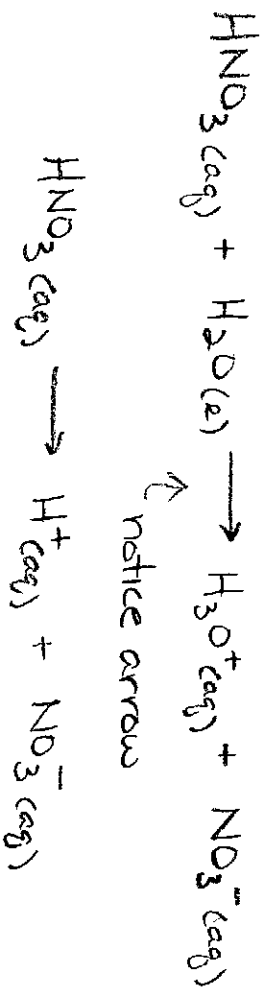


16.5 Strong Acids and Bases

7 common strong acids

↳ HCl, HBr, HI, HNO₃, HClO₃, HClO₄, H₂SO₄
↳ complete ionization



What is the pH of .040 M solution of HClO₄?

Strong acid → so $[\text{H}^+] = [\text{ClO}_4^-] = .040 \text{ M}$

$$\text{pH} = -\log .040 = 1.40$$

Strong bases

↳ ionic hydroxides of all alkali metals
and heavier alkaline earth metals

Calculate pH of .028 M solution of NaOH?

strong base → so $[\text{OH}^-] = [\text{Na}^+] = .028 \text{ M}$

$$\text{pOH} = -\log .028 = 1.55$$

$$\text{pH} = 14.00 - 1.55 = 12.45$$