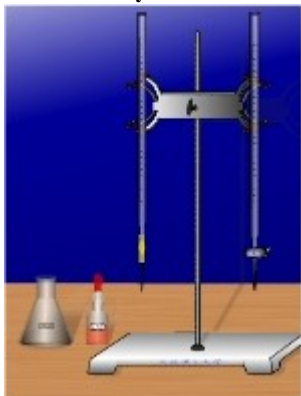


§3.1.4 Concentration expression of standard solution

1. Molarity



— the mole number of solute contained in the solution of unit volume

$$c = n / V$$

the unit for the concentration is $\text{mol} \times \text{L}^{-1}$, the elemental unit must be pointed out. e.g. atom, molecule, ion, electron etc.

2. Titer — the mass of analyte that is chemically equivalence to 1 mL of the titrant. It is usually expressed as $T_{\text{analyte/titrant}}$. The unit is $\text{g} \cdot \text{mL}^{-1}$.

Example: To determine the iron content with 0.02718 mol/L KMnO_4 solution, its concentration can be expressed by Titer as: $T_{\text{Fe}/\text{KMnO}_4} = 0.007590 \text{ g/mL}$

That is, 1 mL KMnO_4 standard solution is equivalent to 0.007590 g iron, the iron content can be determined according to the volume of standard solution consumed in the titration conveniently and rapidly.:

$$m_{\text{Fe}} = T_{\text{Fe}/\text{KMnO}_4} \cdot V_{\text{KMnO}_4}$$

$T_{A/B} = (a / b) \cdot c_B \cdot M_A \cdot 10^{-3}$ The key point in this page: the definition, expression and calculations of Titer. Problems in this page: What is the Titer of 0.02718 mol/L potassium dichromate for iron?