

Equation Sheet

CHE 105, CHE 109, CHE 110, CHE 111

$$d = \frac{m}{V}$$

$$K = ^\circ\text{C} + 273.15$$

$$^\circ\text{F} = \frac{9}{5}^\circ\text{C} + 32$$

$$\% \text{ composition of an element} = \frac{n \times \text{molar mass element}}{\text{molar mass compound}} \times 100$$

$$M_1 V_1 = M_2 V_2$$

$$\% \text{ yield} = \frac{\text{actual yield}}{\text{theoretical yield}} \times 100\%$$

$$w = -P\Delta V$$

$$q = mc\Delta T$$

$$\Delta H_{\text{rxn}}^\circ = \Sigma n_{\text{products}} \Delta H_{\text{f}}^\circ(\text{products}) - \Sigma n_{\text{reactants}} \Delta H_{\text{f}}^\circ(\text{reactants})$$

$$\lambda \nu = c$$

$$E = h\nu$$

$$\Delta E = -R_H \left(\frac{1}{n_f^2} - \frac{1}{n_i^2} \right)$$

$$\lambda = \frac{h}{mv}$$

$$E = k \frac{Q_1 Q_2}{r}$$

$$\Delta H_{\text{rxn}} = \Sigma \text{BE}(\text{break}) - \Sigma \text{BE}(\text{make})$$

$$PV = nRT$$

$$d = \frac{P\mathcal{M}}{RT}$$

$$\chi_i = \frac{n_i}{n_{\text{total}}}$$

$$P_i = \chi_i P_{\text{total}}$$