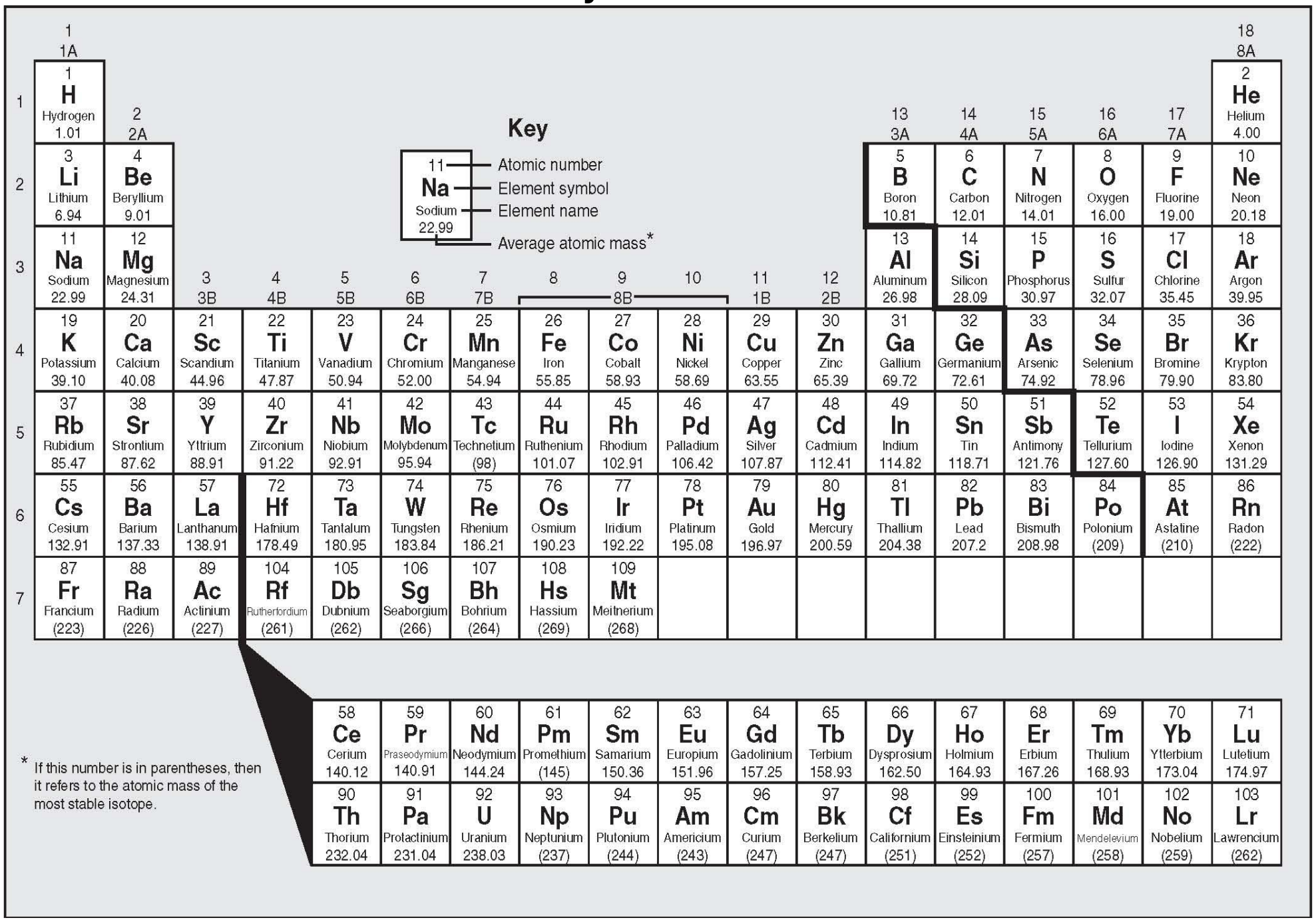
Chemistry Reference Sheet



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Chemistry Reference Sheet

Formulas

Ideal Gas Law: $PV = nRT$

Combined Gas Law: $\frac{P_1V_1}{T_1} = \frac{P_2V_2}{T_2}$

Pressure Formula: $P = \frac{F}{A}$

Mass-Energy Formula: $E = mc^2$

Calorimetric Formulas –

No Phase Change: $Q = m(\Delta T)C_p$

Latent Heat of Fusion: $Q = m\Delta H_{fus}$

Latent Heat of Vaporization: $Q = m\Delta H_{vap}$

Constants

Volume of Ideal Gas at STP: $22.4\ \frac{L}{mol}$

Speed of Light in a Vacuum: $c = 3.00 \times 10^8\ \frac{m}{s}$

Specific Heat of Water: $C_p(H_2O) = 1.00\ \frac{cal}{(g\ ^oC)} = 4.18\ \frac{J}{(g\ ^oC)}$

Latent Heat of Fusion of Water: $\Delta H_{fus}(H_2O) = 80\ \frac{cal}{g} = 334\ \frac{J}{g}$

Latent Heat of Vaporization of Water: $\Delta H_{vap}(H_2O) = 540\ \frac{cal}{g} = 2260\ \frac{J}{g}$

Unit Conversions

Calorie-Joule Conversion: 1 cal = 4.184 J

Absolute Temperature Conversion: K = °C + 273

Pressure Conversions: 1 atm = 760 mm Hg = 760 Torr = 101.325 kPa = $14.7\ \frac{lbs.}{in.^2}$ = 29.92 in. Hg