

Chemistry for Allied health formula sheet

1 mol atoms = 6.022×10^{23} atoms
$1 \text{ cm}^3 = 1 \text{ mL}$
$1000 \text{ cal} = 1 \text{ Kcal} = 1 \text{ Cal}$
$1 \text{ cal} = 4.184 \text{ J}$
$STP = 1 \text{ atm and } 0^\circ\text{C}$
$1 \text{ mol of gas at STP} = 22.4\text{L}$

Prefix	Symbol	Factor
Giga	G	10^9
Mega	M	10^6
Kilo	K	10^3
centi	C	10^{-2}
milli	m	10^{-3}
micro	μ	10^{-6}
nano	n	10^{-9}

<i>Fat</i> – contains 9 Calories(Kcal) per gram
<i>Protiens</i> – contains 4 Calories(Kcal) per gram
<i>Carbohydrates</i> – contains 4 Calories(Kcal) per gram

$$P_1V_1 = P_2V_2$$

$$\frac{P_1}{T_1} = \frac{P_2}{T_2}$$

$$\frac{V_1}{T_1} = \frac{V_2}{T_2}$$

$$\frac{P_1V_1}{T_1} = \frac{P_2V_2}{T_2}$$

$$P_{total} = P_1 + P_2 + P_3 + \dots + P_n$$

$$PV = nRT$$

$$\text{Density} = \frac{\text{mass}}{\text{volume}}$$

$$^\circ\text{C} = \frac{5}{9} (^\circ\text{F} - 32)$$

$$^\circ\text{F} = \left(\frac{9}{5} * ^\circ\text{C}\right) + 32$$

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$$K = ^\circ\text{C} + 273 \quad M = \frac{\text{moles}}{\text{L solution}} \quad -\log[\text{H}_3\text{O}^+] = \text{pH} \quad -\log[\text{OH}^-] = \text{pOH}$$
$$[\text{OH}^-] \cdot [\text{H}_3\text{O}^+] = K_w \quad [\text{H}_3\text{O}^+] = 10^{-\text{pH}} \quad K_w@25^\circ\text{C} = 10^{-14}\text{M} \quad \text{pH} < 7 \text{ is acidic}$$

$$\text{pH} = 7 \text{ is neutral} \quad \text{pH} > 7 \text{ is basic} \quad \% \text{ mass/volume} = \frac{\text{g solute}}{\text{mL solution}} * 100$$

Equivalents (eq) = moles ions * charge of ion

Name	Formula	Name	Formula
Acetate	$\text{C}_2\text{H}_3\text{O}_2^-$	Phosphate	PO_4^{3-}
Carbonate	CO_3^{2-}	Ammonium	NH_4^+
Bicarbonate	HCO_3^-	Chlorite	ClO_2^-
Hydroxide	OH^-	Chlorate	ClO_3^-
Nitrite	NO_2^-	Sulfite	SO_3^{2-}
Nitrate	NO_3^-	Sulfate	SO_4^{2-}
Cyanide	CN^-		

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