

SCH 3U REVIEW

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QUANTITIES IN REACTIONS

- (a) N_2 $MM = 28 \text{ g/mol}$
 (b) C_8H_{18} $MM = 114 \text{ g/mol}$
 (c) O_2 $MM = 32 \text{ g/mol}$

3 a) $mass = (2.5 \text{ mol})(58.3 \text{ g/mol})$
 $= 145.75 \text{ g}$ (2 sig figs: 150 g)

b) $mass = (0.25 \text{ mol})(180 \text{ g/mol})$
 $= 45 \text{ g}$

c) $mass = (6.75 \text{ mmol})(32 \text{ g/mol})$
 $= (6.75 \times 10^{-3} \text{ mol})(32 \text{ g/mol})$
 $= 0.216 \text{ g}$ (216 mg)

$(\text{mmol} = 1 \text{ millimole})$
 $= 1 \times 10^{-3} \text{ mol}$
 $= \frac{1}{1000} \text{ mol}$

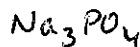
4 a) $n = \frac{10.00 \text{ g}}{18 \text{ g/mol}}$

$= 0.556 \text{ mol}$

b) $n = \frac{1.50 \times 1000 \text{ g}}{102 \text{ g/mol}}$

$= 14.7 \text{ mol}$

c) $n = \frac{2.35 \times 10^{-3} \text{ g}}{164 \text{ g/mol}}$



$= 1.43 \times 10^{-5} \text{ mol}$

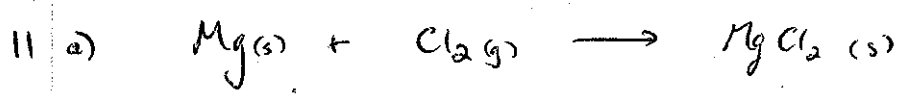
(= 0.0143 mmol)

6 a)	N	O
mass	36.8	63.2
n	2.63	3.95
# by smallest	1	1.5
x2	2	3



b) $MM(N_2O_3) = 76$

$\therefore N_2O_3$ is the
Molecular Formula.



b) $mass\ Mg = 15.00g\ Cl_2 \times \frac{1\ mol\ Cl_2}{70.90g\ Cl_2} \times \frac{1\ mol\ Mg}{1\ mol\ Cl_2} \times \frac{24.31g\ Mg}{1\ mol\ Mg}$
 $= 5.143\ g\ (4\ sig\ figs)$



d)	Fe_2O_3	CO
mass:	200.0 g	100.0g
n:	1.253 mol	3.570 mol
	DIV EACH BY COEFF	
	÷ 1	÷ 3
	1.253	1.19

∴ CO IS LIMITING.

$mass\ Fe = 100.0g\ CO \times \frac{1\ mol\ CO}{28.01g\ CO} \times \frac{2\ mol\ Fe}{3\ mol\ CO} \times \frac{55.85g\ Fe}{1\ mol\ Fe}$
 $= 132.9\ g\ Fe$