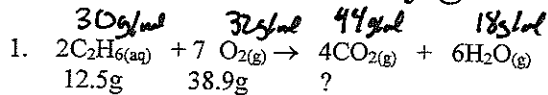


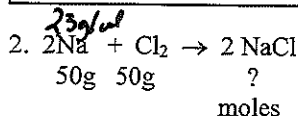
(#7-2)
STOICHIOMETRY
Mass, Limiting and Excess #1

Note: 1 mole of any gas = 22.4 L of Volume at STP

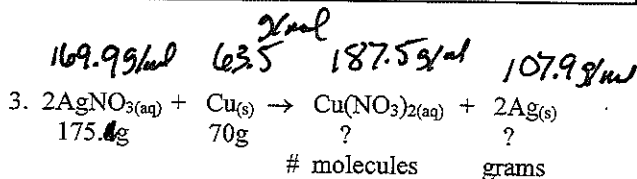


LITERS

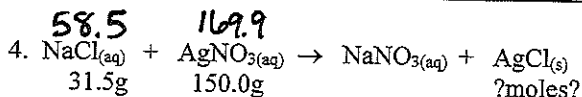
I.	0.42	1.2	mol
S.	0.34	-1.2	+0.68 mol
E.	0.08	0	



I.	2.17	0.705	0
S.	-1.41	-0.705	+1.41
E.	+0.76	0	



I.	1.03	1.1	0	0
S.	-1.03	-0.516	+0.516	+1.03
E.	0	+0.583		



I.	0.538	0.883	0	0
S.	-0.538	-0.538	+0.538	+0.538
E.	0	0.345		

$$12.5 \cdot \frac{1 \text{ mol}}{30.5} = 0.42 \text{ mol}$$

$$38.9 \cdot \frac{1 \text{ mol}}{32.5} = 1.2 \text{ mol}$$

$$1.2 \text{ mol} \cdot \frac{2 \text{ C}_2\text{H}_6}{7 \text{ O}_2} = 0.34$$

$$1.2 \text{ mol} \cdot \frac{4}{7} = \frac{22.4 \text{ L}}{1 \text{ mol}} = \boxed{15.4 \text{ L}}$$

CO₂

$$50 \text{ g} \cdot \frac{1 \text{ mol}}{23.5} = 2.17$$

$$50 \text{ g} \cdot \frac{1 \text{ mol}}{70.99} = 0.705 \text{ mol}$$

$$0.705 \cdot \frac{2}{1} = 1.41$$

$$0.76 \text{ mol} \cdot \frac{23}{1 \text{ mol}} = \boxed{17.5 \text{ g excess}}$$

$$70 \text{ g} \cdot \frac{1 \text{ mol}}{63.55} = 1.10 \text{ mol}$$

$$175.5 \text{ g} \cdot \frac{1 \text{ mol}}{169.99} = 1.03 \text{ mol}$$

$$1.03 \text{ mol} \cdot \frac{1}{2} = 0.516 \text{ mol}$$

$$0.583 \text{ mol} \cdot \frac{63}{1 \text{ mol}} = \boxed{37.1 \text{ g excess}}$$

$$0.516 \cdot \frac{6.022 \times 10^{23}}{1 \text{ mol}} = \boxed{3.11 \times 10^{23}}$$

$$1.03 \cdot \frac{107.9}{1 \text{ mol}} = 111. \text{ g Ag}$$

$$31.5 \cdot \frac{1 \text{ mol}}{58.5 \text{ g}} = 0.538 \text{ mol}$$

$$150.0 \cdot \frac{1 \text{ mol}}{169.9} = 0.883 \text{ mol}$$