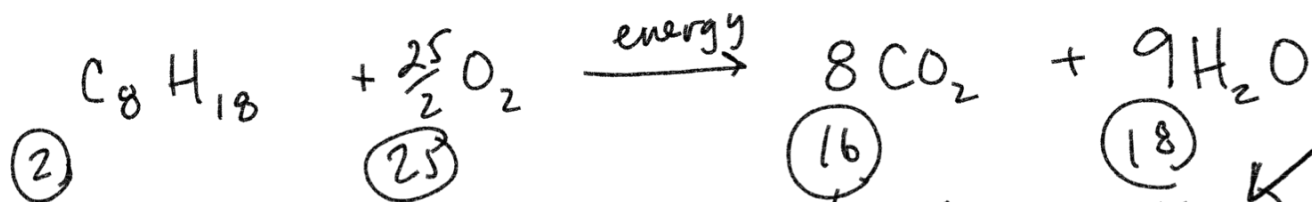


W-6C General Chemistry 2/2



45,000 g C_8H_{18}

How much (mass H_2O)

180,000 g O_2

(vol CO_2)

what is limiting reagent?
 how much excess reagent left?

limiting reagent

$$45,000 \text{ g } \text{C}_8\text{H}_{18} \times \frac{1 \text{ mol } \text{C}_8\text{H}_{18}}{114.232 \text{ g } \text{C}_8\text{H}_{18}} \times \frac{18 \text{ mol } \text{H}_2\text{O}}{2 \text{ mol } \text{C}_8\text{H}_{18}} \times \frac{18.015 \text{ g } \text{H}_2\text{O}}{1 \text{ mol } \text{H}_2\text{O}}$$

8×12.011	=	96.088
18×1.008	=	18.144
		114.232

$63,871 \text{ g } \text{H}_2\text{O}$

$$180,000 \text{ g } \text{O}_2 \times \frac{1 \text{ mol } \text{O}_2}{31.998 \text{ g } \text{O}_2} \times \frac{18 \text{ mol } \text{H}_2\text{O}}{25 \text{ mol } \text{O}_2} \times \frac{18.015 \text{ g } \text{H}_2\text{O}}{1 \text{ mol } \text{H}_2\text{O}}$$

$72,965 \text{ g } \text{H}_2\text{O}$

$$45,000 \text{ g } \text{C}_8\text{H}_{18} \times \frac{1 \text{ mol } \text{C}_8\text{H}_{18}}{114.232 \text{ g } \text{C}_8\text{H}_{18}} \times \frac{16 \text{ mol } \text{CO}_2}{2 \text{ mol } \text{C}_8\text{H}_{18}} \times \frac{22.4 \text{ L}}{1 \text{ mol } \text{CO}_2}$$

$70,593 \text{ L } \text{CO}_2 \text{ g}$

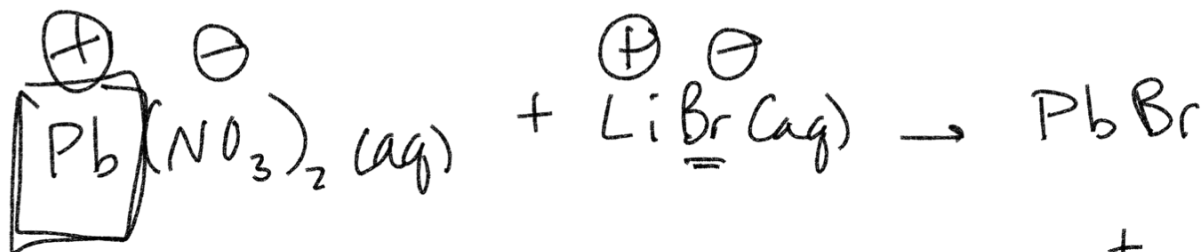
$$45,000 \text{ g } C_9H_{18} * \frac{1 \text{ mol } C_9H_{18}}{114.232 \text{ g}} * \frac{25 \text{ mol } O_2}{2 \text{ mol } C_9H_{18}} * \frac{31.998 \text{ g } O_2}{1 \text{ mol } O_2}$$

$$157,564 \text{ g } O_2$$

$$180,000 - 157,564$$

$$\boxed{22,436 \text{ g } O_2}$$

excess



Double Replacement

