1. How many moles of Na_3AlO_3 can be formed from 15.2g of NaOH?

$$6\ NaOH + 2\ Al \rightarrow 2\ Na_3AlO_3 + 3\ H_2$$

$$\frac{15.2\text{ g NaOH}}{} \left| \frac{1\text{ mol NaOH}}{40\text{ g NaOH}} \right| \frac{2\text{ mol } Na_3AlO_3}{6\text{ mol NaOH}}$$

.127 moles Na_3AlO_3

2. If you start with 45.2 grams of ethylene (C_2H_4), how many liters of CO_2 will be produced @STP ?

$$C_2H_4 + 3\ O_2 \rightarrow 2\ CO_2 + 2\ H_2O$$

72.2L CO_2

$$\frac{45.2\text{ g } C_2H_4}{} \left| \frac{1\text{ mol } C_2H_4}{28.06\text{ g } C_2H_4} \right| \frac{2\text{ mol } CO_2}{1\text{ mol } C_2H_4} \left| \frac{22.4\text{ L } CO_2}{1\text{ mol } CO_2} \right.$$