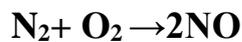


“Answer on Question #58244, Chemistry / General Chemistry”

For the following reaction, 5.64 grams of nitrogen gas are mixed with excess oxygen gas . The reaction yields 10.6 grams of nitrogen monoxide .



$$\mathbf{2n(N_2) = n(NO)}$$

$$\mathbf{n = \frac{m}{M}}$$

$$\mathbf{n(N_2) = \frac{5,64}{28} = 0,2 \text{ mol}}$$

$$\mathbf{n(NO) = 2 \cdot 0,2 \text{ mol} = 0,4 \text{ mol}}$$

$$\mathbf{m = n \cdot M}$$

$$\mathbf{m(NO) = 0,4 \cdot 30 = 12 \text{ g.}}$$

$$\mathbf{\eta = \frac{10,6 \cdot 100}{12} = 88\%}$$