Answer on Question #54891 - Chemistry - General chemistry

Question:

How many grams of $O_2(g)$ are needed to completely burn 87.3g of $C_3H_8(g)$?

$$C_{3}H_{8} + 5O_{2} \rightarrow 3CO_{2} \uparrow +4H_{2}O$$

$$\frac{m_{c_{3}H_{8}}}{M_{c_{3}H_{8}}} = \frac{m_{O_{2}}}{5 \times M_{O_{2}}}$$

$$\frac{87.3}{44.1} = \frac{m_{O_{2}}}{5 \times 32}$$

$$m_{O_{2}} = \frac{87.3 \times 5 \times 32}{44.1}$$

$$m_{O_{2}} = 316.73g$$

Answer: 316.73g