1. Calculate the mass of water produced when 9.44 g of butane reacts with excess oxygen.

9.44 g X g 2 $C_4H_{10} + 13 O_2 \rightarrow 8 CO_2 + 10 H_2O$ 2*58 10*18 X= 9.44*10*18/2*58 = 14.648 g - the mass of water produced

2. Calculate the mass of butane needed to produce 99.5 g of carbon dioxide. Y g 99.5 g 2 C₄H₁₀ + 13 O₂ \rightarrow 8 CO₂ + 10 H₂O 2*58 8*44 Y = 2*58*99.5/8*44 = 32.79 g - the mass of butane

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