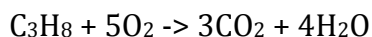# Answer on Question #61555 - Chemistry - General Chemistry

Question:

In the combustion of propane (C3H8), what mass of oxygen will react with 96.1 g of propane?

Solution:

1) Compose and balance the reaction equation:

$C_3H_8 + 5O_2 -> 3CO_2 + 4H_2O$

Equation shows that propane and oxygen react in molar ratio 1:5

2) Calculate the mass ratio from the molar ratio (rounded to one decimal digit):

1 mole of C_3H_8 = 3*12.0+8*1.0 = 44.0 g

5 moles of O_2 = 5* (2*16.0) = 160.0 g

So 44.0 g of propane will react with 160.0 g of oxygen.

3) From the ratio found on step 2) calculate the mass of oxygen (m) from the task:

m = (96.1 * 160.0)/44.0 = 349.5 g.

Answer:

The mass of oxygen that reacts with 96.1 g of propane is **349.5 g**.