**Answer on Question #81828, Chemistry / General Chemistry**

2 $C_8H_{18}$ + 25 $O_2$ ——-> 16 $CO_2$ + 18 $H_2O$
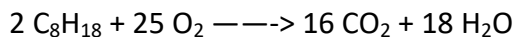
If 114 g of $C_8H_{18}$ were used in the above reaction, how many grams of $O_2$ would be needed for complete reaction

## Solution

According to the reaction equation 2 moles of $C_8H_{18}$ require 25 moles of oxygen. As the molar mass of $C_8H_{18}$ (8×12 + 18×1) is 114 g/mole, there is 1 mole of $C_8H_{18}$ given in the task. Thus it requires 12.5 moles of oxygen.

Find mass of oxygen needed for complete reaction:

$m(O_2)$ = 12.5 × 32 = 400(g)

## Answer

**400 g** of $O_2$ would be needed for complete reaction.