Question #46638, Chemistry, Other

The space shuttle burns liquid hydrogen and oxygen in the main engine. If 102000 kg of liquid hydrogen is carried on particular launch. What mass of liquid oxygen is necessary for all the hydrogen burnt??
2H2(g) + O2(g)------> 2H2O

Answer:

$102*10^6$ g X g

$2H_2 + O_2 \rightarrow 2H_2O$

2*2*1 g/mol 2*16 g/mol

X = $102*10^6*2*16/(2*2*1) = 816*10^6$ (g) = **816000 kg**