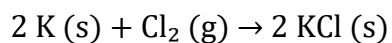


Stoichiometry and The Mole Hole

Example One:

How many grams of potassium chloride can be produced from 3.50 g of solid potassium and excess chlorine gas?



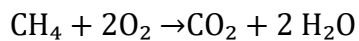
Molar Masses



K	39.10 g/mol
Cl ₂	70.91 g/mol
KCl	74.55 g/mol

Example Two:

How many grams of water are produced from the combustion of 32.0 g of methane (CH₄) and excess oxygen as shown in the reaction below.



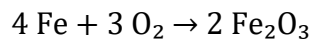
Molar Masses



CH ₄	16.04 g/mol
O ₂	32.00 g/mol
CO ₂	44.01 g/mol
H ₂ O	18.02 g/mol

Example Three

How many moles of iron (III) oxide are produced from the reaction of excess iron with 4.0 moles of oxygen?



Molar Masses



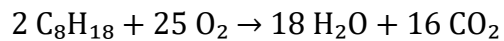
Fe 55.85 g/mol

O₂ 32.00 g/mol

Fe₂O₃ 159.69 g/mol

Example Four

How many grams of carbon dioxide can be produced from 2.50 g of octane and excess oxygen gas?



Molar Masses



C₈H₁₈ 114.23 g/mol

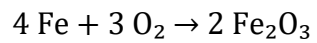
O₂ 32.00 g/mol

H₂O 18.02 g/mol

CO₂ 44.01 g/mol

Example Five

How many moles of iron are required to produce 10.0 g of iron (III) oxide using excess oxygen? How many moles of oxygen are required?



Molar Masses 

Fe 55.85 g/mol

O₂ 32.00 g/mol

Fe₂O₃ 159.69 g/mol