

Info from balanced eqns

$$2 \text{H}_2(\text{g}) + 1 \text{O}_2(\text{g}) \rightarrow 2 \text{H}_2\text{O}(\text{g})$$

2:1:2 ← MOLE RATIO

5g  $\text{H}_2$  + plenty (excess)  $\text{O}_2$  → 45g  $\text{H}_2\text{O}$

MOLE RATIO

<del>5g <math>\text{H}_2</math></del>	<del>1 mole <math>\text{H}_2</math></del>	<del>2 Mole <math>\text{H}_2\text{O}</math></del>	<del>18g <math>\text{H}_2\text{O}</math></del>
2g $\text{H}_2$	2 Mole $\text{H}_2$	4 Mole $\text{H}_2\text{O}$	72g $\text{H}_2\text{O}$

$72\text{g} - 18\text{g} = 54\text{g} \text{H}_2\text{O}$

Oct 1-7:25 AM

Limiting Reagent (Reactant)

1 FRAME (BODY) + 4 TIRES → 1 CARS

10 units + 30 tires → ? CARS

① = 10  
② = 7.5

Do each Separately ?

smaller amount is the limiting reagent.

LR

10 Frames	1 Car	= 10 Cars
30 tires	4 tires	= 7.5 Cars

Oct 1-7:57 AM

$2 \text{H}_2 + \text{O}_2 \rightarrow 2 \text{H}_2\text{O}$   
 $5\text{g} \quad 5\text{g} \quad \rightarrow \quad \text{g H}_2\text{O}$

①

5g H <sub>2</sub>	Mole H <sub>2</sub>	2 mole H <sub>2</sub> O	18g H <sub>2</sub> O
	2g H <sub>2</sub>	2 mole H <sub>2</sub>	Mole H <sub>2</sub> O = 45g H <sub>2</sub> O

② LR

5g O <sub>2</sub>	Mole O <sub>2</sub>	2 mole H <sub>2</sub> O	18g H <sub>2</sub> O
	32g O <sub>2</sub>	1 mole O <sub>2</sub>	Mole H <sub>2</sub> O = 5.625g H <sub>2</sub> O

Oct 1-8:04 AM

LR → gets used up (None left)  
 Other reactant has "left over" ← How Much?

(excess)  $2 \text{H}_2 + \text{O}_2 \rightarrow 2 \text{H}_2\text{O}$   
 $5\text{g} \quad 5\text{g} \quad \text{LR}$   
 Used 0.625g

5g O <sub>2</sub>	1 mole O <sub>2</sub>	2 mole H <sub>2</sub>	2g H <sub>2</sub>	= 0.625g H <sub>2</sub> used
	32g O <sub>2</sub>	1 mole O <sub>2</sub>	1 mole H <sub>2</sub>	

START 5g H<sub>2</sub> - USE 0.625g H<sub>2</sub> = leftover 4.375g H<sub>2</sub> excess

Oct 1-8:10 AM

HW

3/72

Oct 1-8:13 AM