

(#7-2)
CHEMISTRY
Moles Limiting and Excess #1

What are the two factors that affect which substance will be the limiting reactant?

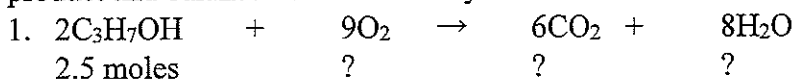
1. Quantity

2. Rate used

If needed, what is the general method one uses to solve for the limiting reactant?

Pick a Reactant, Solve to find (need) of another reactant.

Determine the "?", Limiting and excess for the following reactions. Complete the product and balance where necessary.

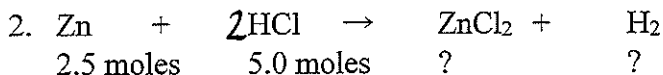


I.	2.5 mol excess	0	0
S.	-2.5	-11.25	+7.5
E.	0		

$$2.5 \cdot \frac{9}{2} = 11.25$$

$$2.5 \cdot \frac{6}{2} = 7.5 \text{ mol}$$

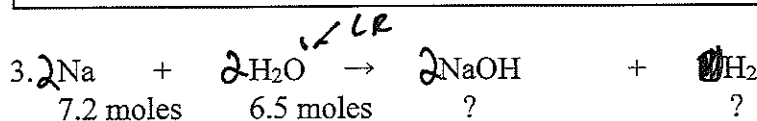
$$2.5 \cdot \frac{8}{2} = 10 \text{ mol}$$



I.	2.5	5.0		
S.	-2.5	-5	+2.5	+2.5
E.	0	0	+2.5	+2.5

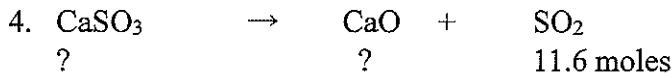
$$2.5 \cdot \frac{2}{1} = 5.0$$

Zn HCl



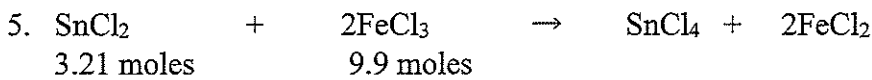
I.	7.2	6.5	0	0
S.	-6.5	-6.5	+6.5	+3.25
E.	0.7	0		

$$6.5 \cdot \frac{2}{1} = 3.25$$



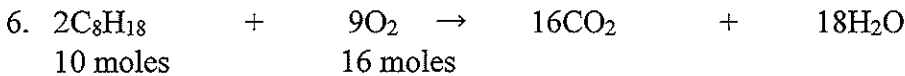
I.	11.6?	0	0
S.	-11.6	+11.6	+11.6
E.	0	11.6?	11.6

$$11.6 \cdot \frac{1}{1} = 11.6$$



I.	3.21	9.9	0	0
S.	-3.21	-6.42	+3.21	+6.42
E.	0	3.48	↑	↑

$$3.21 \cdot \frac{2}{1} = 6.42$$



I.	10	16	0	0
S.	-3.5	-16	+28.4	32 mol
E.	6.5	0		

$$10 \text{ mols} \cdot \frac{9}{2} = 45 \text{ mol Needed}$$

$$16 \text{ mol} \cdot \frac{2}{9} = 3.5 \text{ mol}$$

$$16 \cdot \frac{16}{9} = 28.4 \text{ mol}$$

$$16 \cdot \frac{18}{9} = 32 \text{ mol}$$