

Limiting Reagents:

- when a chemical reaction occurs between two or more reactants....

- one chemical is used up entirely (limiting reagent)
- any others are not fully reacted (excess)

paraffin + oxygen gas → CO₂ + water



$$SiO_2 + 3C \rightarrow SiC + 2CO$$

100g SiO₂ reacts with 100g carbon;
how much SiC is formed?

100g SiO₂ → ? g SiC

100g C → ? g SiC

pick smallest answer

$$\text{SiO}_2 + 3\text{C} \rightarrow \text{SiC} + 2\text{CO}$$

100g LP 100g SiO_2	100g 1 mol SiO_2	1 mol SiO_2	1 mol SiC 40.087g SiC
	= 60.084g SiO_2		= 1 mol SiC
			= 66.718g SiC

100g C XS	1 mol C	1 mol SiC	40.087g SiC
	12.011g C	3 mol C	1 mol SiC
			= 111.251g SiC

$$\text{N}_2\text{H}_4 + \text{O}_2 \rightarrow \text{N}_2 + \text{H}_2\text{O}$$

25g 50g ?g

25g N_2H_4			g N_2
50g O_2			g N_2



If 550 g Al_2O_3 is reacted with 40 g of carbon, how much aluminum will be formed?