

The Limiting Reactant



If reactants are mixed according to the mole ratio (stoichiometric amounts), there will be no leftover chemicals.

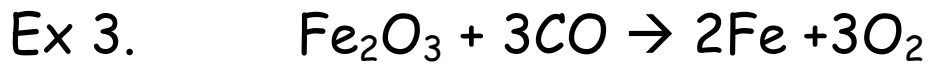
This rarely happens in practice (sometimes extra reactants are added to speed up a reaction)

Limiting Reactant: the reactant that runs out first. When used up, the reaction stops.

Ex 1. 1 frame + 2 wheels \rightarrow 1 bike

- a) If I have 6 frames and 11 wheels, what is the limiting reactant?
- b) How many bikes can I make?

Ex 2. If 7.26 g of KNO_3 is reacted with 9.50 g of Mg metal, what is the limiting reactant?



- a) If 11.5 g of Fe_2O_3 reacts with 2.63×10^{24} molecules of CO , what mass of Fe is expected?
- b) What mass of excess reactant is there?