

Unit 7 – Ch 12 – Limiting (L.R.) and Excess (E.R.) Reactants

LIMITING REACTANT (L.R.):

➤ DEFINITION –

- The reaction _____ after all of the limiting reactant (LR) is _____ - *used up*.

EXCESS REACTANT (E.R.):

➤ DEFINITION –

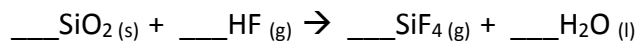
- **NOTE:** There could be _____ if _____ of the reactants are _____.

DETERMINING L.R. & E.R. :

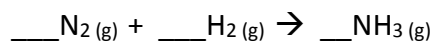
1. Write a _____ equation.
2. Determine the _____ product: _____ *OR* may have to read ahead of the problem to determine the wanted product.
 - a. Otherwise, _____ any product and stick with it!!
3. Calculate the _____ *OR* _____ of the _____ from _____ reactant (*stoichiometry calculation*).
 - i. This is the _____.
 - a. Reactant that produces the _____ amount of _____ is the _____.
 - b. Remaining reactant is the _____.

PRACTICE EXAMPLES:

1. 4.50 moles of solid SiO₂ reacts with 2.00 moles of HF gas to produce SiF₄ gas and water. How many grams of water are produced?



2. 70.1 grams of nitrogen gas reacts with 10.1 grams of hydrogen gas to produce ammonia gas. How many moles of ammonia are produced?



3. If 65.1 grams of calcium chloride reacts with 74.7 grams of sodium carbonate, how many grams of calcium carbonate are produced?