

Problem Set - Limiting Reagents & Molar Yields - Questions

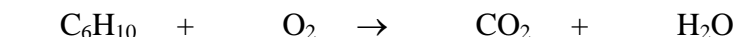
Major Steps in Determining Limiting Reagents:

- 1) Balance the Equation in Moles.
- 2) Underneath the equation, write out the **Number of Moles, n** , of all species where this data is given.
- 3) Based on the **Number of Moles, n** , determine which species is in **Excess**.
- 4) Based on the **Number of Moles, n** , determine which species is the **Limiting Reagent**.
- 5) Use the correct number of moles for the **Limiting Reagent** in the equation to see what other values will need to be calculated.
- 6) Calculate the **Number of Moles, n** , of each species based on the appropriate ratios.

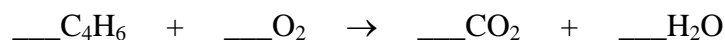
Note #1: Show all work for all questions.

Note #2: Use the number of significant figures in your final answer that is justified by the number of significant figures of the data you were given.

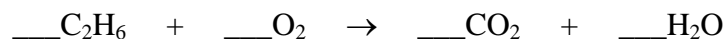
1. 12 moles of C_6H_{10} were reacted with 52 moles of Oxygen. Identify the limiting reagents and then predict the yield of the products in moles.



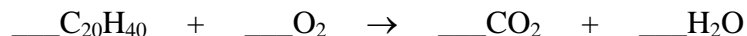
2. 0.4 moles of C_4H_6 were reacted with 12 moles of Oxygen. Identify the limiting reagents and then predict the yield of the products in moles.



3. 12 moles of C_2H_6 were reacted with 0.50 moles of Oxygen. Identify the limiting reagents and then predict the yield of the products in moles.

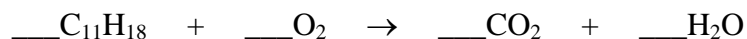


4. 5.00 moles of $C_{20}H_{40}$ were reacted with 5.00 moles of Oxygen. Identify the limiting reagents and then predict the yield of the products in moles.

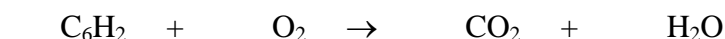


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5. 3.0 moles of $C_{11}H_{18}$ were reacted with 6.0 moles of Oxygen. Identify the limiting reagents and then predict the yield of the products in moles.



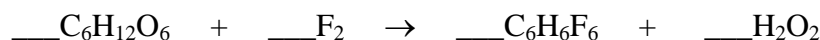
6. 0.21 moles of C_6H_2 were reacted with 0.32 moles of Oxygen. Identify the limiting reagents and then predict the yield of the products in moles.



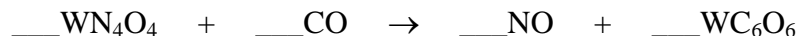
7. 12 moles of C_8H_8 were reacted with 52 moles of HCl. Identify the limiting reagents and then predict the yield of the products in moles.



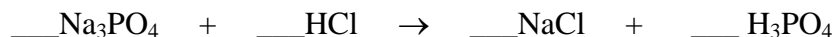
8. 0.4 moles of $C_6H_{12}O_6$ were reacted with 12 moles of F_2 . Identify the limiting reagents and then predict the yield of the products in moles.



9. 12 moles of WN_4O_4 were reacted with 0.50 moles of CO. Identify the limiting reagents and then predict the yield of the products in moles.

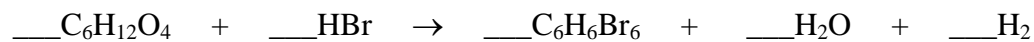


10. 5.00 moles of Na_3PO_4 were reacted with 5.00 moles of HCl. Identify the limiting reagents and then predict the yield of the products in moles.



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11. 3.0 moles of $C_6H_{12}O_4$ were reacted with 6.0 moles of HBr. Identify the limiting reagents and then predict the yield of the products in moles.



12. 0.21 moles of $Al_2(SO_4)_3$ were reacted with 0.32 moles of HBr. Identify the limiting reagents and then predict the yield of the products in moles.

