

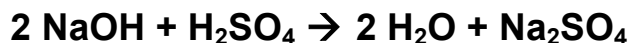
Name: _____

Date: _____

Hr: _____

Stoichiometry Review Answers

Using the following equation:



1. How many grams of sodium sulfate will be formed if you start with 200 grams of sodium hydroxide and you have an excess of sulfuric acid?

355.2 g Na₂SO₄

2. How many grams of sodium hydroxide is needed to produce 64.3 dm³ of water vapor?

114.7 g NaOH

3. If you begin with 8×10^{23} molecules of sulfuric acid and react it with excess sodium hydroxide how many grams of Na₂SO₄ will be formed?

188.77 g Na₂SO₄

4. How many grams of water will be produced if you react 3 mol of sulfuric acid with sufficient sodium hydroxide?

108.13 g H₂O

5. If you begin with 6 pounds of Na (2.2 lb per kg) how many molecules of Sodium Sulfate will be produced?

2.05×10^{25} molec Na₂SO₄

Use the following equation to solve the following:



6. How many grams of lithium nitrate will be needed to make 250 grams of lithium sulfate, assuming that you have an adequate amount of lead (IV) sulfate to do the reaction?

313.55 g LiNO₃

7. How many mol of lead nitrate would be produced if you began with 60 grams of lithium nitrate and reacted that with excess lead sulfate?

0.22 mol PbNO₃

8.) 5.3×10^{23} molecules of lead sulfate will react with excess lithium nitrate. How many cubic decimeters of lithium sulfate will be produced from this reaction? (Lithium sulfate is rarely found as a gas but lets just assume it will be for the sake of this problem.)

39.44 dm³ LiSO₄

9. How many grams of lead nitrate will be produced if you react 80 grams of lead sulfate with excess lithium nitrate?

91.2 g PbNO₃

Answer number 10 and 11 without an equation.

10. How many moles are there in 6.02×10^{23} atoms of a substance?

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11. How many moles are there in 22.4 dm³ of a substance?

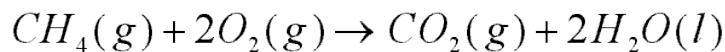
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5. What is the empirical and molecular formula for a compound consisting of 40.00% C, 6.72% H, 53.29% O. The mass of the molecular formula is 180 g/mol.

Empirical: CH₂O Molecular: C₆H₁₂O₆

6. What is the percent by mass of carbon in CH₄?

74.8% Carbon



7. Using the above reaction determine the mass of oxygen gas needed to produce 450 dm³ of CO₂?

1285.4 g O₂

Use this equation for the following problem:



a) If 15 grams of copper (II) chloride (CuCl₂) react with 20.0 grams of sodium nitrate (NaNO₃), how much sodium chloride (NaCl) can be formed?

About 13 g of NaCl

b) What is the name of the limiting reagent? _____ CuCl₂ _____

c) How much of the excess reagent is left over in this reaction?

About 1 gram

d) If 11.3 grams of sodium chloride are formed in this reaction in a lab, what is the percent yield of this reaction compared to the theoretical value you calculated?

86.9%