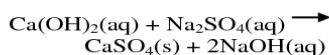


Stoichiometry Multiple Choice
Worksheet

1. What is the empirical formula of a compound that is 43.64% phosphorous and 56.36% by weight oxygen?

- A. PO
- B. PO₃
- C. P₂O₃
- D. P₂O₅
- E. P₃O₂

2. 3.64 g of calcium hydroxide react with excess sodium sulfate in aqueous solution to produce solid sulfate and aqueous sodium hydroxide. How many moles of calcium atoms are reacting here?



- A. 0.00982 mol
- B. 0.0246 mol
- C. 0.0266 mol
- D. 0.0491 mol
- E. 0.0909 mol

3. A 0.250 M solution of AgNO₃ is to be prepared. What mass of solid AgNO₃ do you need in order to prepare 50.0 mL of this solution?

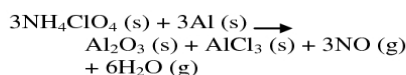
- A. 2.12 g
- B. 4.98 g
- C. 6.66 g
- D. 9.87 g
- E. 12.5 g

4. Which compound has the highest percent by mass of nitrogen?

- A. (CH₃)₃N(l)
- B. N₂O₄(l)
- C. HNO₃(g)

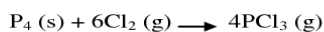
- D. NO₂(g)
- E. N₂(g)

5. If one mole of the rocket fuel ammonium perchlorate, NH₄ClO₄ (s) is allowed to react with excess Al so all of the NH₄ClO₄ is consumed, how many molecules of water will be produced?



- A. 3.61 x 10²³
- B. 1.00 x 10²³
- C. 6.02 x 10²³
- D. 1.20 x 10²⁴
- E. 3.01 x 10²⁴

6. How many grams of potassium cyanide, KCN, is produced from 93.0 grams of P₄ (s) and 213 g of Cl₂ (g), assuming the reaction goes to completion? The balanced equation for the reaction is:



- A. 277 g
- B. 416 g
- C. 213 g
- D. 104 g
- E. 69.3 g

7. A 58.90 g sample of a mystery compound containing carbon, hydrogen, and oxygen is subjected to combustion analysis. 86.35 g CO₂ and 35.35 g H₂O are produced in the combustion reaction. What percent by mass are carbon, hydrogen, and oxygen in the mystery compound?

- A. 19.6% carbon, 3.3% hydrogen, and 77.1% oxygen