

4. Write molecular and net ionic equations for each of the following reactions:
- Aqueous solutions of copper(II) nitrate and sodium hydroxide.
 - Aqueous solutions of potassium sulfate and barium chloride.
 - Aqueous solutions of acetic acid and calcium hydroxide.
5. What mass of lead(II) sulfate can be formed from reaction of 25.0 mL of 0.100 M sodium sulfate and 40.0 mL of 0.200 M lead(II) nitrate solutions?

6. Assume that vinegar is a 0.852 M solution of acetic acid in water. What volume of 0.214 M NaOH would be needed to completely neutralize 5.25 mL of vinegar?

7. What volume of 5.00 M H₂SO₄ is needed to completely neutralize 575 mL of a 4.10 M KOH solution?

8. Identify the Brønsted-Lowry acids and bases in each of the following equations:

