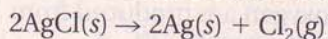


8. A volume of 7.5 L of hydrogen gas at STP was produced from the single-replacement reaction of zinc with nitric acid. Calculate the mass of zinc needed for this reaction.

SECTION 12.3 LIMITING REAGENT AND PERCENT YIELD

- How many moles of water can be made from 4 moles of oxygen gas and 16 moles of hydrogen gas? What is the limiting reagent?
- Calculate the mass of water produced from the reaction of 24.0 g of H₂ and 160.0 g of O₂. What is the limiting reagent?
- The burning of 18.0 g of carbon produces 55.0 g of carbon dioxide. What is the theoretical yield of CO₂? Calculate the percent yield of CO₂.
- Calculate the percent yield of Cl₂(g) in the electrolytic decomposition of hydrogen chloride if 25.8 g of HCl produces 13.6 g of chlorine gas.
- One method for reclaiming silver metal from silver chloride results in a 94.6% yield. Calculate the actual mass of silver that can be produced in this reaction if 100.0 g of silver chloride is converted to silver metal.



- What is the actual amount of magnesium oxide produced when excess carbon dioxide reacts with 42.8 g of magnesium metal? The percent yield of MgO(s) for this reaction is 81.7%.

