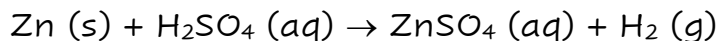


Gas Mixtures and Collection of a Gas Over Water

Dalton's Law of Partial Pressures

$$P_{\text{Total}} = P_A + P_B + P_C + \dots + P_n$$

1. What is the total pressure, in atm, in a vessel that holds 1.45 atm of N₂ gas and 3.98 atm of Ar gas?
2. A 4.15 L vessel holds 0.345 moles of oxygen gas and 1.25 moles of nitrogen gas at a temperature of 101 °C. What is the pressure in atm?
3. What is the partial pressure of each gas in a vessel containing 2.1 g Ne, 0.38 g of Xe, and 1.5 g of Ar if the total pressure is 3.1 atm?
4. Hydrogen gas can be prepared in the laboratory with the reaction of zinc metal and sulfuric acid, H₂SO₄.



The hydrogen gas is collected over water. What volume of H₂ gas is produced by the reaction of 0.245 g of zinc metal in excess H₂SO₄ if the temperature is 22.0 °C and the barometric pressure is 750 torr?

[Vapor Pressure of Water](#)