Chemistry
Unit #17—Gases

Empirical and Molecular Formulas

1. A gas consisting of only carbon and hydrogen has an empirical formula of CH_2. The gas has a density of 1.65 g/L at 27°C and 734 mm Hg. Determine the molar mass and the molecular formula of the gas.

2. A compound has an empirical formula of CHCl. A 256 milliliter flask at 373 Kelvins and 750 torr contains 0.800 grams of the gaseous compound. Determine the molar mass of the compound and its molecular formula.