

EXTRA PRACTICE

- 1) What is the molar mass of lithium oxide?
- 2) Consider ammonium phosphite:
 - a. How many moles of ammonium are in 1 mole of $(\text{NH}_4)_3\text{PO}_3$?
 - b. How many moles of phosphite are in 1 mole of $(\text{NH}_4)_3\text{PO}_3$?
 - c. How many moles of ions are in a mole of $(\text{NH}_4)_3\text{PO}_3$?
 - d. How many moles of nitrogen are in a mole of $(\text{NH}_4)_3\text{PO}_3$?
 - e. How many moles of hydrogen are in a mole of $(\text{NH}_4)_3\text{PO}_3$?
 - f. How many atoms of phosphorus are in 1 mol of $(\text{NH}_4)_3\text{PO}_3$?
 - g. How many atoms of oxygen are in 1 mol of $(\text{NH}_4)_3\text{PO}_3$?
 - h. How many atoms of phosphorus are in 1 formula unit of $(\text{NH}_4)_3\text{PO}_3$?
 - i. How many formula units are in 2.31 moles of $(\text{NH}_4)_3\text{PO}_3$?
 - j. How many grams are in 3.21×10^{24} formula units of $(\text{NH}_4)_3\text{PO}_3$?
- 3) What is the volume of 8.12 moles of oxygen gas at STP?
- 4) How many moles are in 63.2 L of sulfur dioxide at STP?
- 5) What is the mass of 15.2 L of carbon dioxide?
- 6) How many molecules of H_2O are in 6.78 g of H_2O ?
- 7) How many grams are in 5.98 moles of lithium oxide?
- 8) What is the percent composition of nitrogen in $\text{Ba}(\text{NO}_3)_2$?
- 9) How many grams of manganese are in 45.3 g of manganese (II) phosphate?
- 10) What is the empirical formula for a compound that is 57.14% C, 6.16% H, 9.52% N, and 27.18% O.
- 11) The empirical formula for a compound has 12.03 grams of phosphorus, 5.44 grams of nitrogen and 27.53 grams of chlorine. If its molecular mass is 231.76 g/mol, determine its molecular formula.
- 12) A compound's empirical formula is C_2OH_4 . If the molar mass is 88 g/mol, what is the molecular formula?
- 13) The molecular formula for Vitamin C is $\text{C}_{24}\text{H}_{32}\text{O}_{24}$. What is its empirical formula?