

Ch. 10 NOTES (2)

What is the conversion factor we use for molar mass?

1 mol

Mass \leftrightarrow moles Example Problems:

1) What is the mass, in grams, of 9.45 mol of aluminum oxide? (Al_2O_3)

Step 1: Find the molar mass

Step 2: Set up your conversion problem

2) How many moles of iron(III) oxide are contained in 92.2 g of pure Fe_2O_3 ?

What is Avogadro's Hypothesis:

What is STP?

What is the conversion factor we use for molar volume conversions?

1 mol

Volume \leftrightarrow moles Example Problems:

1) Determine the volume, in liters, of 0.60 mol SO_2 gas at STP.

- 2) The density of a gaseous compound containing carbon and oxygen is found to be 1.964 g/L at STP. What is the molar mass of the compound?

Multi-step molar conversion example problems:

- 1) How many atoms are there in 10.2 L of Ar gas at STP?

- 2) What is the mass (g) of 6.14×10^{25} atoms of gold?