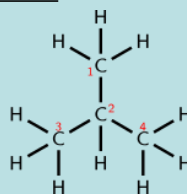


Molecular Compounds

- Generally involves only nonmetals
- Units are called “molecules”
- Molecular Formula:
Indicates the actual number and type of atoms
Ex: H₂O CO₂ H₂O₂ C₂H₄
- Empirical Formula
Indicates the lowest whole number ratio of atoms
Ex: H₂O CO₂ HO CH₂

Structural v. Molecular v. Empirical Formulas

Structural:



Molecular: C₄H₁₀

Empirical: C₂H₅

Molecular Compounds: Naming

- Name 1st nonmetal
- Name 2nd nonmetal, change ending to “-ide”
- Attach prefixes indicating how many of each atom is present
- Don't use prefix on first nonmetal if there's only one of that atom

Prefixes:

1) mono 2) di 3) tri 4) tetra 5) penta
6) hexa 7) hepta 8) octa 9) nona 10) deca

Ex: CO carbon monoxide
CO₂ carbon dioxide
N₂O₅ dinitrogen pentoxide
N₃O₂ trinitrogen dioxide
SF₆ sulfur hexafluoride

Molecular Compounds: Formulas

You are not expected to determine formulas for molecular compounds any other way than from the name

Ex: diphosphorus trichloride P₂Cl₃
silicon dioxide SiO₂