

Chem 07-08

Reading and Writing Formulas for Binary Covalent Compounds

Rules:

- A. Both elements are nonmetals.
- B. The element more to the left on the Periodic Table represents the cation and is named following cation rules.
- C. The element more to the right represents the anion and is named using anion rules.
- D. If the Stock System is used, Roman numerals are used in the name to represent the oxidation number of the cation.
- E. If the Greek System is used, prefixes represent the number of each element used in the formula.
- F. The cation only gets a prefix if it is more than one.

What is the name of the compound P_4O_{10} ?

Greek System

There are four Phosphorus atoms – Tetraphosphorus

There are ten Oxygen atoms – Decoxide

Tetraphosphorus Decoxide

Stock System

Oxidation number of Oxygen O^{-2}

$(10 \text{ Oxygen} \times -2) + ((?) \times 4 \text{ P}) = \text{Zero}$

$? = +5$

Phosphorus V Oxide

Name the following compounds.

Greek System

Stock System

Cl_2O _____

ClO_2 _____

CS_2 _____

ClF_3 _____

Cl_2O_7 _____

P_2O_5 _____

NO _____

SO_3 _____

N_2O_4 _____

N_2F_4 _____

NF_3 _____

CO_2 _____

Write the formulas for the following compounds

Carbon Monoxide _____

Nitrogen Dioxide _____

Dibromine Monoxide _____

Difluorine Heptoxide _____

Phosphorus Pentachloride _____

Diarsenic Trisulfide _____

Sulfur (II) Chloride _____

Nitrogen (V) Oxide _____

Selenium (VI) Fluoride _____

Arsenic (V) Oxide _____

Carbon (IV) Chloride _____

Carbon (IV) Bromide _____