

Naming Molecular Compounds

Contain discrete molecular units, composed of nonmetallic elements (like C, N, O)

1. Name the first element in the formula first and the second element is named by adding “-ide” to the root of the element name:

Examples:

HCl: hydrogen chloride

HBr: hydrogen bromide

2. Can also for different combinations of the compound. Use Table 2.4 to denote the number of atoms of each element present.

CO: carbon monoxide

CO₂: carbon dioxide

The prefix mono may be omitted for the first element.

PCl₃: phosphorous trichloride

For oxides the ending “a” may be omitted

N₂O₄: dinitrogen tetroxide NOT dinitrogen tetraoxide

EXCEPTIONS

B₂H₆: diborane

CH₄: methane

SiH₄: silane

NH₃: ammonia

PH₃: phosphine

H₂O: water

H₂S: hydrogen sulfide

Name the molecular compounds

PF₃ – **phosphorous trifluoride**

P₄O₆ – **tetraphosphorous hexoxide**

SiCl₄ – **silcon tetrachloide**

HgI₂ – **mercury diiodide**

CdI₂ – **cadmium diiodide**

HgO – **mercury oxide**

Write the formulas for the following

boron trichloride – **BCl₃**

carbon disulfide – **CS₂**

disodium ammonium phosphate –

Na₂(NH₄)(PO₄)

tetraphosphorous decasulfide – **P₄S₁₀**

nitrogen monoxide - **NO**

oxygen difluoride – **OF₂**