

Ionic & Covalent Compounds - Naming Flowchart

Is there a METAL in the compound?

YES

NO

Is the METAL Multivalent?

NO

YES

Count the different elements

Count the different elements

Count the different elements

1 element
Homogeneous polyatomic molecule

2 elements
Covalent Binary

2 elements
Metal / Nonmetal
Ionic Binary

3 or more elements
Metal / PAI
Ionic Ternary

2 elements
Tran Metal / Nonmetal
Ionic Binary

3 or more elements
Tran Metal / PAI
Ionic Ternary

H₂ O₂ F₂ Br₂ I₂ N₂ Cl₂
P₄ S₈

- Name first element, using prefixes (except "mono-")
(Prefixes indicate how many of each element is in the compound)
- Name second element, using prefixes (including "mono-")
- Change ending to "-ide"

- Name metal first
- Name nonmetal second *and* change ending to "-ide"

- Name metal first
- Name polyatomic ion second
- **DO NOT** change ending to "-ide"

- Name transition metal first
- Determine charge of transition metal and write as Roman Numeral after name
- Name nonmetal second and change ending to "-ide"

- Name transition metal first
- Determine charge of transition metal and write as Roman Numeral after name
- Name PAI second (do not change ending to "ide")

- Name the element