

Chapter 6 Nomenclature of Inorganic Compounds

Advanced Chemistry

6.1 Common and Systematic Names

Learning Objective

Distinguish between the common and systematic names of chemical substances.

- Common names are arbitrary and do not describe the chemical composition of compounds.
- A standard system of nomenclature was devised and is maintained by the IUPAC.

6.2 Elements and Ions

Learning Objective

Discuss the formation, charge and naming of simple ions.

- Ions form through the gain or loss of electrons from neutral atoms.
- The charge on ions can often be predicted from the periodic table.
- Naming...see assignments/notes.

6.3 Writing Formulas From Names of Ionic Compounds

Learning Objective

Write the chemical formula for an ionic compound from the name of the compound

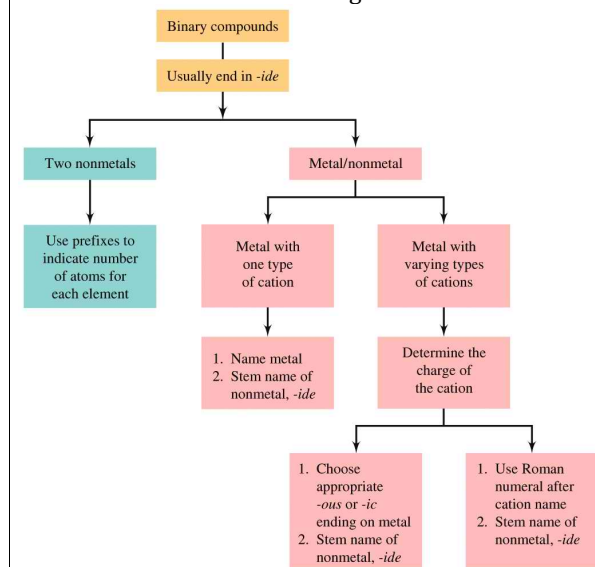
- Compounds must have a net charge of zero.
- To write a formula from a name:
 - Identify and write the symbols for the element in the compound.
 - Combine the smallest number of ions required to produce a net charge of zero.
- Chemical formula writing and naming...see assignments/notes.

6.4 Naming Binary Compounds

Learning Objective

Name binary ionic and nonionic compounds.

- The rules for naming binary compounds can be summarized in the following chart.



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- Chemical formula writing and naming...see assignments/notes.

Key Term

Binary compound	Compounds which are composed of two different elements.
Stock System	A system that uses Roman numerals to name elements that form more than one type of cation. (For example: Fe ²⁺ , iron(II); Fe ³⁺ , iron(III).)

6.5 Naming Compounds Containing Polyatomic Ions

Learning Objective

Recognize names, formulas, and charges of polyatomic ions, name compounds containing polyatomic ions, and write formulas from names of compounds containing polyatomic ions.

- The rules for naming these compounds.
 - Write the name of the cation.
 - Write the name of the anion.
- Chemical formula writing and naming...see assignments/notes.

Key Term

Polyatomic ion

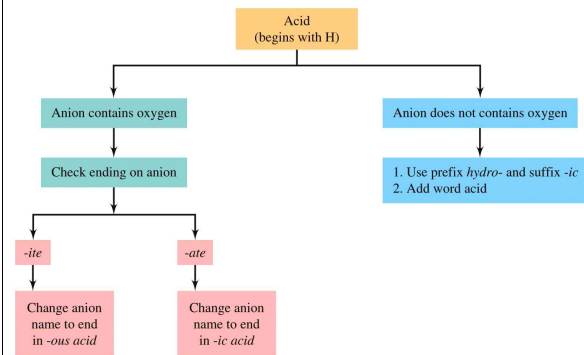
An ion composed of more than one atom.

6.6 Acids

Learning Objective

Use the rules to name an acid from its formula and to write the formula for an acid from its name.

- The rules for naming acids can be summarized in the chart that follows:



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