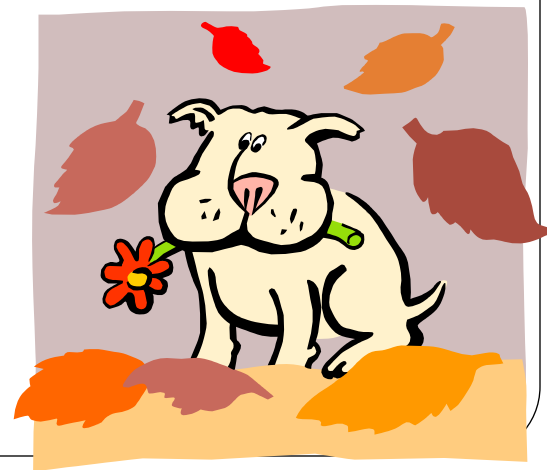


Discussion

CCl_4 and MgCl_2

1) What information can you discern from a compound's chemical formula?

2) Which compound is molecular? Ionic?
How did you know?



Naming Ionic Compounds

Type I: Diatomic

Writing Names from Formulas

1. Identifying the cation as a Group I metal , Group II metal, Aluminum, Zinc, or Silver
2. Identify the anion as a nonmetal
3. Name the cation (the metal) with its full name
4. Name the anion (the nonmetal) by changing the ending to *-ide*

Example: NaCl

cation: sodium

anion: chlorine

Name: sodium *chloride*

NaCl

KBr

MgI₂

BeO

CaF₂

Cs₂S

AlCl₃

ZnO

Ag₃P

Writing Formulas from Names

1. Identify charge of cation ($1+$, $2+$, $3+$)
2. Identify charge of anion ($1-$, $2-$, $3-$)
3. Balance the charges
4. The charge of the cation becomes the subscript of the anion
5. The charge of the anion becomes the subscript of the cation
6. Reduce subscripts if necessary

Write the formula under the name:

Aluminum Sulfide

Barium Carbide

Lithium Sulfide

Potassium Oxide

Zinc Chloride

Silver Fluoride

Sodium Nitride

Potassium Iodide

Calcium Oxide

Type I: Polyatomic

Writing Names from Formulas

1. Identifying the cation as a Group I metal , Group II metal, Aluminum, Zinc, or Silver
2. Identify the anion as a polyatomic ion
3. Name the cation (the metal) with its full name
4. Name the anion (the polyatomic) with its full name

Example: KOH

cation: potassium & anion: hydroxide

Name: potassium hydroxide

KCN

NaOH

CaCO₃

Li₂SO₃

Cs₃PO₄

NH₄Cl

FrClO₂

MgSiO₃

BaC₂O₄

Writing Formulas from Names (polyatomics)

silver nitrate

magnesium sulfate

calcium hydroxide

strontium chlorate

barium cyanide

zinc silicate

aluminum dichromate

ammonium sulfate

potassium permanganate

Type II: Transition Metals

Writing Names from Formulas

1. Identify the cation as a transition metal
2. Identify the anion
3. Identify the charge of the cation
4. Name the cation (the transition metal) with its full name and the charge of the ion in roman numerals
- 5a. Name the anion (the nonmetal) by changing the ending to -ide
- 5b. Name the anion (the polyatomic) with its full name

Example: CoBr_2

Cation: cobalt $^{2+}$ & anion: 2 bromine

Name: cobalt (II) bromide

CuI

CuI₂

CoCO₃

Co₂(CO₃)₃

SnO

SnO₂

HgBr₂

Hg₂Br₂

SnS

iron(II) oxide

iron(III) oxide

chromium(II) phosphate

chromium(III) phosphate

manganese (II) fluoride

manganese (III) fluoride

iron(III) hydroxide

lead(IV) sulfite

mercury(I) sulfide