

Remember:

Metal or Hydrogen + nonmetal or molecular compound = ALWAYS IONIC

C O²⁻
oxide

Naming Inorganic Compounds

Molecular compounds use number prefixes (eg., carbon ~~monoxide~~)

21. Write chemical formulas for the following compounds and identify which are molecular (MC) and which are ionic (IC):

- a. Sulfur dioxide SO₂ (MC)
- b. Dinitrogen pentoxide N₂O₅ (MC)
- c. Iron (II) oxide FeO (IC)
- d. Lead (II) phosphate Pb₃(PO₄)₂ (IC)
- e. Hydrogen sulfide H₂S (MC)
- f. Calcium carbonate CaCO₃ (IC)
- g. Hydroiodic acid HI (IC)
- h. Nitric acid HNO₃ ()
Nitrate + H
- i. Nickel (III) sulfide Ni₂S₃ (IC)
- j. Hydrophosphoric acid H₃PO₄ (IC)
- k. Carbon tetrafluoride CF₄ (MC)
- l. Xenon hexafluoride XeF₆ (MC)
- m. Aluminum oxide Al₂O₃ (IC)
- n. Lithium bicarbonate LiHCO₃ ()

22. Name the following compounds and identify which are molecular (MC) and which are ionic (IC):

- a. CoCl₂ Cobalt Chloride (IC)
- b. Ca₃(PO₄)₂ Calcium Phosphate (IC)
- c. CO Carbon Monoxide (MC)
- d. PH₃ Phosphine (MC)

e. SO_3 Sulfite (mL)

f. P_4 Phosphorus (ex mL)

g. N_2O_4 Dinitrogen Pentoxide (mL)

h. NaOH Sodium Hydroxide (iL)

i. CaSO_4 Calcium Sulfate (iL)

j. $\text{Pb}(\text{NO}_3)_2$ Lead Nitrate (iL)

k. FeCl_3 Iron Chloride (iL)

l. Na_2O Sodium Oxide (iL)

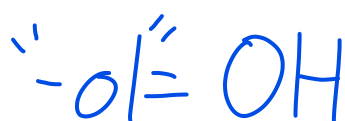
m. HNO_3 Nitric Acid (iL) (acid)

n. C_4H_{10} Butane (mL)

o. CH_3OH Methanol (iL)

p. SF_6 Sulfur Hexafluoride (mL)

q. K_2CO_3 Potassium Chloride (iL)



23. Give the chemical names of each of the following familiar compounds:

- a. NaCl (table salt) Sodium Chloride
- b. NaHCO_3 (baking soda) Sodium Bicarbonate
- c. NaOCl (bleach) Sodium Oxychloride
- d. NaOH (drain cleaner, lye) Sodium Hydroxide
- e. $(\text{NH}_4)_2\text{CO}_3$ (smelling salts) Ammonium Carbonate
- f. CaSO_4 (plaster of paris) Calcium Sulfate

24. Give the chemical formula of these common substances:

- a. Sucrose $\text{C}_{12}\text{H}_{22}\text{O}_{11}$
- b. Acetic acid _____
- c. Magnesium sulfate MgSO_4
- d. Ethanol OH
- e. Calcium carbonate CaCO_3
- f. Ammonia NH_3