

Binary Ionic Compounds

- Consist of only _____ elements.
- Name the _____ ion (the _____).
- Name the _____ ion (the _____), changing the ending to _____.
- When metals that can form _____ than one type of _____ are in a compound, use a _____ in parentheses after the name of the _____ to show the _____.

Examples: NaCl _____

MgO _____

Cu₂S _____

SnCl₄ _____

Ternary Ionic Compounds

- Made up of _____ elements.
- Name the _____ then name the _____ without changing the ending to "ide".

Examples: Na₂SO₄ _____

FeCrO₄ _____

Naming Molecular Compounds

- The elements are named in the _____ they appear in the _____.
- _____ are used to denote the _____ of atoms of each _____ in the molecule. An exception is that the _____ element named is given a _____ only if there is more than _____ atom of that element in the _____.
- The "o" or "a" at the _____ of a _____ is _____ when the word following the _____ begins with a _____.
- The _____ element's ending is changed to _____.

Examples: ICl_3 _____
 As_2O_5 _____

Naming Hydrocarbons:

Alkane: $\text{C}_n\text{H}_{2n+2}$

Alkene: C_nH_{2n}

Examples: C_4H_{10} _____
 C_2H_4 _____

The Chemistry Quiz

CR1. _____

CR2. _____

1. _____

2. _____

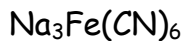
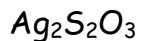
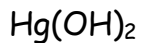
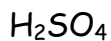
3. _____

4. _____

5. _____

Worksheet: More Practice Naming Ionic Compounds

Reveal each of the following ionic compounds one at a time, have students write the name of the compound on dry-erase slates, and hold them up for you to check once completed. This is a great way for you to ensure that each student "gets it".



Write the name of each ionic compound below.

1. MgS _____
2. FeO _____
3. BaSO₃ _____
4. Al(OH)₃ _____
5. Zn(NO₃)₂ _____
6. Na₂S _____
7. K₂SO₄ _____
8. AgCl _____
9. PbO₂ _____
10. KCN _____
11. Ca₃(PO₄)₂ _____
12. NaOH _____
13. PbCl₂ _____
14. KNO₃ _____
15. NaNO₂ _____
16. Fe₂O₃ _____
17. NH₄OH _____
18. Ag₂S _____
19. Ba₃N₂ _____
20. KSCN _____
21. Zn(C₂H₃O₂)₂ _____
22. KMnO₄ _____
23. NaClO _____
24. Cr₂(C₂O₄)₃ _____
25. CaBr₂ _____

Ionic Charges Chart

Cations

| 1+ | | 2+ | | 3+ | |
|-----------|------------------------------|---------------|-------------------------------|----------------|------------------|
| ammonium | NH ₄ ⁺ | barium | Ba ²⁺ | aluminum | Al ³⁺ |
| cesium | Cs ⁺ | beryllium | Be ²⁺ | chromium(III) | Cr ³⁺ |
| gold(I) | Au ⁺ | cadmium | Cd ²⁺ | cobalt(III) | Co ³⁺ |
| hydrogen | H ⁺ | calcium | Ca ²⁺ | gold(III) | Au ³⁺ |
| lead(I) | Pb ⁺ | cobalt(II) | Co ²⁺ | iron(III) | Fe ³⁺ |
| lithium | Li ⁺ | copper(II) | Cu ²⁺ | manganese(III) | Mn ³⁺ |
| potassium | K ⁺ | iron(II) | Fe ²⁺ | | |
| silver | Ag ⁺ | lead(II) | Pb ²⁺ | | |
| sodium | Na ⁺ | magnesium | Mg ²⁺ | | |
| copper(I) | Cu ⁺ | manganese(II) | Mn ²⁺ | | |
| | | mercury(I) | Hg ₂ ²⁺ | | |
| | | mercury(II) | Hg ²⁺ | | |
| | | nickel(II) | Ni ²⁺ | | |
| | | strontium | Sr ²⁺ | | |
| | | zinc | Zn ²⁺ | | |
| | | tin(II) | Sn ²⁺ | | |
| | | | | 4+ | |
| | | | | tin(IV) | Sn ⁴⁺ |
| | | | | nickel(IV) | Ni ⁴⁺ |
| | | | | lead(IV) | Pb ⁴⁺ |

Roman numeral notation indicates charge of ion when element commonly forms more than one ion. For example, iron(II) has a 2+ charge; iron(III) a 3+ charge.

Anions

| 1- | | 2- | | 3- | |
|--------------------|---|--------------|-------------------------------|-------------|--|
| acetate | C ₂ H ₃ O ₂ ⁻ | cyanide | CN ⁻ | carbonate | CO ₃ ²⁻ |
| amide | NH ₂ ⁻ | cyanate | OCN ⁻ | chromate | CrO ₄ ²⁻ |
| hydrogen carbonate | | fluoride | F ⁻ | dichromate | Cr ₂ O ₇ ²⁻ |
| (bicarbonate) | HCO ₃ ⁻ | hydride | H ⁻ | oxide | O ²⁻ |
| hydrogen sulfate | | hydroxide | OH ⁻ | oxalate | C ₂ O ₄ ²⁻ |
| (bisulfate) | HSO ₄ ⁻ | hypochlorite | ClO ⁻ | silicate | SiO ₃ ²⁻ |
| bisulfide | HS ⁻ | iodate | IO ₃ ⁻ | sulfate | SO ₄ ²⁻ |
| bisulfite | HSO ₃ ⁻ | iodide | I ⁻ | sulfide | S ²⁻ |
| bromate | BrO ₃ ⁻ | nitrate | NO ₃ ⁻ | sulfite | SO ₃ ²⁻ |
| bromide | Br ⁻ | nitrite | NO ₂ ⁻ | tartrate | C ₄ H ₄ O ₆ ²⁻ |
| chlorate | ClO ₃ ⁻ | perchlorate | ClO ₄ ⁻ | tetraborate | B ₄ O ₇ ²⁻ |
| chlorite | ClO ₂ ⁻ | permanganate | MnO ₄ ⁻ | thiosulfate | S ₂ O ₃ ²⁻ |
| chloride | Cl ⁻ | thiocyanate | SCN ⁻ | | |

There are no common anions with a 4- charge.