

Naming Chemical Compounds Study Guide

For this test, you will be asked to identify and name each of the following types of compounds:

- Type I Binary Compounds
- Type II Binary Compounds
- Type III Binary Compounds
- Ternary Compounds
- Acids
- Hydrates

In addition, you will also be expected to know the 60 elements from the common element list, as well as the 15 polyatomic ions specified from the common polyatomic ions list. These ions are:

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|--|------------------------------------|------------------------------------|
| • Ammonium (NH_4^+) | • Carbonate (CO_3^{2-}) | • Nitrite (NO_2^-) |
| • Acetate ($\text{C}_2\text{O}_3\text{H}_2^-$) | • Hypochlorite (ClO^-) | • Nitrate (NO_3^-) |
| • Cyanide (CN^-) | • Chlorite (ClO_2^-) | • Phosphate (PO_4^{3-}) |
| • Hydroxide (OH^-) | • Chlorate (ClO_3^-) | • Sulfite (SO_3^{2-}) |
| • Peroxide (O_2^{2-}) | • Perchlorate (ClO_4^-) | • Sulfate (SO_4^{2-}) |

You will be expected to be able to correctly identify the type of compound based on either its chemical formula or the name of the compound. Also, you should be able to describe the identifying characteristics of each of the six types of compounds above.

On the reverse side, you will find mixed practice of all six types of compounds. This is additional practice for naming chemical compounds when given the chemical formula, and determining the chemical formula when given the name.

If you want additional practice, there are 50 additional compounds that can be named from the chemical formula, and 50 additional compounds whose chemical formula can be found given its name, that can be found at the back of the *Naming Chemical Compounds & Writing Chemical Formulas*

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1. Na_2CO_3	<u>sodium carbonate</u>
2. Cu_3P	<u>copper (I) phosphate</u>
3. HI	<u>hydroiodic acid</u>
4. Au_2O_3	<u>gold (III) oxide</u>
5. H_3PO_4	<u>phosphoric acid</u>
6. Co_3N_2	<u>cobalt (II) nitride</u>
7. PCl_3	<u>phosphorus trichloride</u>
8. V_2O_5	<u>vanadium (V) oxide</u>
9. HClO_4	<u>perchloric acid</u>
10. $\text{NiCl}_2 \cdot 6\text{H}_2\text{O}$	<u>nickel (II) chloride hexahydrate</u>
11. BaSO_4	<u>barium sulfate</u>
12. CBr_4	<u>carbon tetra bromide</u>
13. BaO	<u>barium oxide</u>
14. HClO_2	<u>chlorous acid</u>
15. SrSO_3	<u>strontium sulfite</u>
16. Cl_2S_7	<u>dichlorine septasulfide</u>
17. $(\text{NH}_4)_2\text{SO}_4 \cdot 6\text{H}_2\text{O}$	<u>ammonium sulfate hexahydrate</u>
18. H_2S	<u>hydrosulfuric acid</u>
19. NiBr_2	<u>nickel (II) bromide</u>
20. S_3Cl_2	<u>trisulfur dichloride</u>

21. sulfur hexafluoride	<u>SF_6</u>
22. copper (I) oxide	<u>Cu_2O</u>
23. sulfuric acid	<u>H_2SO_4</u>
24. manganese (III) chloride	<u>MnCl_3</u>
25. lithium peroxide	<u>Li_2O_2</u>
26. titanium (III) nitride	<u>TiN</u>
27. carbonic acid	<u>H_2CO_3</u>
28. magnesium sulfate heptahydrate	<u>$\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$</u>
29. acetic acid	<u>$\text{HC}_2\text{H}_3\text{O}_2$</u>
30. cadmium (II) nitrate	<u>Cd_3N_2</u>
31. dinitrogen monoxide	<u>N_2O</u>
32. potassium bromide	<u>KBr</u>
33. nitrous acid	<u>HNO_2</u>
34. calcium hydroxide	<u>$\text{Ca}(\text{OH})_2$</u>
35. lead (II) acetate	<u>$\text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_2$</u>
36. disulfur decafluoride	<u>S_2F_{10}</u>
37. iron (III) chloride hexahydrate	<u>$\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$</u>
38. calcium carbonate	<u>CaCO_3</u>
39. zinc (II) sulfate	<u>ZnSO_4</u>
40. diboron trisulfide	<u>B_2S_3</u>