

Worksheet - Naming Ionic Compounds

Summary of Rules:

1. Write the name of the **metallic** element (if more than 1 ion charge, use roman numerals in parenthesis) or polyatomic ion.
2. Then write the name of the **non-metallic** element (with an "ide" ending) or polyatomic ion.

Part 1: Simple Ionic Compounds:

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|-----------------------------------|--------------------------|------------------------------------|----------------------------|
| 1. NaCl | <u>sodium chloride</u> | 10. Be ₃ N ₂ | <u>beryllium nitride</u> |
| 2. CaBr ₂ | <u>calcium bromide</u> | 11. CaO | <u>calcium oxide</u> |
| 3. NaI | <u>sodium iodide</u> | 12. Na ₂ S | <u>sodium sulphide</u> |
| 4. K ₂ O | <u>potassium oxide</u> | 13. AlI ₃ | <u>aluminum iodide</u> |
| 5. MgBr ₂ | <u>magnesium bromide</u> | 14. K ₃ P | <u>potassium phosphide</u> |
| 6. Al ₂ O ₃ | <u>aluminum oxide</u> | 15. KI | <u>potassium iodide</u> |
| 7. CaF ₂ | <u>calcium fluoride</u> | 16. NaF | <u>sodium fluoride</u> |
| 8. Li ₃ P | <u>lithium phosphide</u> | 17. BaCl ₂ | <u>barium chloride</u> |
| 9. Ag ₂ S | <u>silver sulphide</u> | 18. Be ₃ N ₂ | <u>beryllium nitride</u> |

Part 2: Ionic Compounds with Radicals:

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|-------------------------------------|-----------------------------|---|-----------------------------|
| 1. NaOH | <u>sodium hydroxide</u> | 10. Rb ₂ SO ₄ | <u>rubidium sulphate</u> |
| 2. KNO ₃ | <u>potassium nitrate</u> | 11. Mg(NO ₃) ₂ | <u>magnesium nitrate</u> |
| 3. CaCO ₃ | <u>calcium carbonate</u> | 12. BeCr ₂ O ₇ | <u>beryllium dichromate</u> |
| 4. BaSO ₄ | <u>barium sulphate</u> | 13. Ca(HCO ₃) ₂ | <u>calcium bicarbonate</u> |
| 5. AlPO ₄ | <u>aluminum phosphate</u> | 14. Zn ₃ (PO ₄) ₂ | <u>zinc phosphate</u> |
| 6. SrCr ₂ O ₇ | <u>strontium dichromate</u> | 15. NH ₄ Br | <u>ammonium bromide</u> |
| 7. LiHCO ₃ | <u>lithium bicarbonate</u> | 16. ScPO ₄ | <u>scandium phosphate</u> |
| 8. NH ₄ Cl | <u>ammonium chloride</u> | 17. Cd(NO ₃) ₂ | <u>cadmium nitrate</u> |
| 9. Zn(OH) ₂ | <u>zinc hydroxide</u> | 18. NH ₄ I | <u>ammonium iodide</u> |

Part 3: Ionic Compounds with Metals of More Than 1 Ion Charge:

	valence of metal			valence of metal	
1. CuBr ₂	2+	<u>copper(II) bromide</u>	10. FeSO ₄	2+	<u>iron(II) sulphate</u>
2. FeCl ₃	3+	<u>iron(III) chloride</u>	11. CuCO ₃	2+	<u>copper(II) carbonate</u>
3. FeSO ₄	2+	<u>iron(II) sulphate</u>	12. AuPO ₄	3+	<u>gold(III) phosphate</u>
4. Pb(OH) ₄	4+	<u>lead(IV) hydroxide</u>	13. Ni ₂ S ₃	3+	<u>nickel(III) sulphide</u>
5. CrF ₂	2+	<u>chromium(II) fluoride</u>	14. MnBr ₄	4+	<u>manganese(IV) bromide</u>
6. NiN	3+	<u>nickel(III) nitride</u>	15. HgCl	1+	<u>mercury(I) chloride</u>
7. Sn(OH) ₄	4+	<u>tin(IV) hydroxide</u>	16. Cr(OH) ₃	3+	<u>chromium(III) hydroxide</u>
8. NiS	2+	<u>nickel(II) sulphide</u>	17. CoCO ₃	2+	<u>cobalt(II) carbonate</u>
9. Au ₂ O	1+	<u>gold(I) oxide</u>	18. Sn(HCO ₃) ₄	4+	<u>tin(IV) bicarbonate</u>

Part 4: Ionic Compounds (all 3 types mixed): (see note below)

****Use your periodic table for this section.****

1. HI	<u>hydrogen iodide</u>	16. Pb ₃ (PO ₄) ₄	<u>lead(IV) phosphate</u>
2. BaCO ₃	<u>barium carbonate</u>	17. (NH ₄) ₂ O	<u>ammonium oxide</u>
3. AgCl	<u>silver chloride</u>	18. Li ₂ S	<u>lithium sulphide</u>
4. PbCl ₄	<u>lead(IV) chloride</u>	19. CoBr ₃	<u>cobalt(III) bromide</u>
5. Cd(OH) ₂	<u>cadmium hydroxide</u>	20. Cd(HCO ₃) ₂	<u>cadmium bicarbonate</u>
6. AuCl ₃	<u>gold(III) chloride</u>	21. Na ₃ PO ₄	<u>sodium phosphate</u>
7. Li ₂ Cr ₂ O ₇	<u>lithium dichromate</u>	22. (NH ₄) ₃ N	<u>ammonium nitride</u>
8. Al ₂ (SO ₄) ₃	<u>aluminum sulphate</u>	23. K ₃ P	<u>potassium phosphide</u>
9. ZnO	<u>zinc oxide</u>	24. ZnCO ₃	<u>zinc carbonate</u>
10. CsHCO ₃	<u>cesium bicarbonate</u>	25. Sn ₃ N ₄	<u>tin(IV) nitride</u>
11. NH ₄ Br	<u>ammonium bromide</u>	26. Al(OH) ₃	<u>aluminum hydroxide</u>
12. HgSO ₄	<u>mercury(II) sulphate</u>	27. CuCr ₂ O ₇	<u>copper(II) dichromate</u>
13. CsF	<u>cesium fluoride</u>	28. Mg(NO ₃) ₂	<u>magnesium nitrate</u>
14. HNO ₃	<u>hydrogen nitrate</u>	29. H ₂ S	<u>hydrogen sulphide</u>
15. Fe(NO ₃) ₃	<u>iron(III) nitrate</u>	30. NH ₄ OH	<u>ammonium hydroxide</u>

Note: For metals with more than one valence, use the highest valence number on your Periodic Table.