

Name: _____

Instructions: Fill-in the following table by providing the missing entry. Place "NA" if not applicable. Check your answers after you complete several lines.

Note: If the compound type is "covalent" include "N/A" in the Ions present column.

Chemical Name	Compound Type	Ions present (if ionic)	Chemical Formula
Ex. aluminum sulfide	ionic	[2 Al^{3+} , 3 S^{2-}]	Al_2S_3
1. <u>chromium(III) oxide</u>	<u>ionic</u>	[2 Cr^{3+} , 3 O^{2-}]	<u>Cr_2O_3</u>
2. <u>zinc chloride</u>	<u>ionic</u>	[Zn^{2+} , 2 Cl^-]	<u>ZnCl_2</u>
3. <u>Carbon dioxide</u>	<u>covalent</u>	<u>N/A</u>	<u>CO_2</u>
4. <u>iron(II) cyanide</u>	<u>ionic</u>	[Fe^{2+} , 2 CN^-]	<u>$\text{Fe}(\text{CN})_2$</u>
5. <u>aluminum sulfate</u>	<u>ionic</u>	[Al^{3+} , SO_4^{2-}]	<u>$\text{Al}_2(\text{SO}_4)_3$</u>
6. <u>arsenic trihydride</u>	<u>covalent</u>	<u>N/A</u>	<u>AsH_3</u>
7. <u>ammonium chromate</u>	<u>ionic</u>	[2 NH_4^+ , CrO_4^{2-}]	<u>$(\text{NH}_4)_2\text{CrO}_4$</u>
8. <u>Calcium phosphate</u>	<u>ionic</u>	[3 Ca^{2+} , 2 PO_4^{3-}]	<u>$\text{Ca}_3(\text{PO}_4)_2$</u>
9. <u>silicon tetrafluoride</u>	<u>covalent</u>	<u>N/A</u>	<u>SiF_4</u>
10. <u>Copper(II) chloride</u>	<u>ionic</u>	[Cu^{2+} , 2 Cl^-]	<u>CuCl_2</u>
11. <u>iron(II) permanganate</u>	<u>ionic</u>	[Fe^{2+} , 2 MnO_4^-]	<u>$\text{Fe}(\text{MnO}_4)_2$</u>
12. <u>Cobalt(II) hydrogen phosphate</u>	<u>ionic</u>	[Co^{2+} , HPO_4^{2-}]	<u>CoHPO_4</u>
13. <u>potassium dichromate</u>	<u>ionic</u>	[2 K^+ , $\text{Cr}_2\text{O}_7^{2-}$]	<u>$\text{K}_2\text{Cr}_2\text{O}_7$</u>
14. <u>magnesium phosphide</u>	<u>ionic</u>	[3 Mg^{2+} , 2 P^{3-}]	<u>Mg_3P_2</u>
15. <u>sodium carbonate</u>	<u>ionic</u>	[2 Na^+ , CO_3^{2-}]	<u>Na_2CO_3</u>
16. <u>nickel perchlorate</u>	<u>ionic</u>	[Ni^{2+} , 2 ClO_4^-]	<u>$\text{Ni}(\text{ClO}_4)_2$</u>
17. <u>Copper(II) acetate</u>	<u>ionic</u>	[Cu^{2+} , $\text{C}_2\text{H}_3\text{O}_2^-$]	<u>$\text{Cu}(\text{C}_2\text{H}_3\text{O}_2)_2$</u>
18. <u>cobalt(III) hydroxide</u>	<u>ionic</u>	[Co^{3+} , 3 OH^-]	<u>$\text{Co}(\text{OH})_3$</u>
19. <u>Cadmium chlorate</u>	<u>ionic</u>	[Cd^{2+} , 2 ClO_3^-]	<u>$\text{Cd}(\text{ClO}_3)_2$</u>

Chemical Name	Compound Type	Ions present (if ionic)	Chemical Formula
20. <u>manganese(II) hypobromite</u>	<u>ionic</u>	<u>[Mn^{2+}, 2BrO^-]</u>	<u>$\text{Mn}(\text{BrO})_2$</u>
21. titanium(IV) oxalate	<u>ionic</u>	<u>[Ti^{4+}, $2\text{C}_2\text{O}_4^{2-}$]</u>	<u>$\text{Ti}(\text{C}_2\text{O}_4)_2$</u>
22. calcium hypiodite	<u>ionic</u>	<u>[Ca^{2+}, 2IO^-]</u>	<u>$\text{Ca}(\text{IO})_2$</u>
23. mercury(I) chloride	<u>ionic</u>	<u>[Hg_2^{2+}, 2Cl^-]</u>	<u>Hg_2Cl_2</u>
24. <u>dinitrogen tetroxide</u>	<u>Covalent</u>	<u>N/A</u>	<u>N_2O_4</u>
25. chlorine dioxide	<u>Covalent</u>	<u>N/A</u>	<u>ClO_2</u>
26. <u>silver nitrate</u>	<u>ionic</u>	<u>[Ag^+, NO_3^-]</u>	<u>AgNO_3</u>
27. <u>nickel hydroxide</u>	<u>ionic</u>	<u>[Ni^{2+}, 2OH^-]</u>	<u>$\text{Ni}(\text{OH})_2$</u>
28. sodium bicarbonate*	<u>ionic</u>	<u>[Na^+, HCO_3^-]</u>	<u>NaHCO_3</u>
29. *other name: <u>sodium hydrogen carbonate</u>			
30. tin(IV) chloride	<u>ionic</u>	<u>[Sn^{4+}, 4Cl^-]</u>	<u>SnCl_4</u>
31. mercury(II) nitrate	<u>ionic</u>	<u>[Hg^{2+}, 2NO_3^-]</u>	<u>$\text{Hg}(\text{NO}_3)_2$</u>
32. <u>gallium sulfide</u>	<u>ionic</u>	<u>[2Ga^{3+}, 3S^{2-}]</u>	<u>Ga_2S_3</u>
33. <u>lead(IV) oxide</u>	<u>ionic</u>	<u>[Pb^{4+}, O^{2-}]</u>	<u>PbO_2</u>
34. hydrogen chloride	<u>Covalent</u>	<u>N/A</u>	<u>HCl</u>
35. zinc acetate	<u>ionic</u>	<u>[Zn^{2+}, $2\text{C}_2\text{H}_3\text{O}_2^-$]</u>	<u>$\text{Zn}(\text{C}_2\text{H}_3\text{O}_2)_2$</u>
36. <u>iron(III) chloride</u> *	<u>ionic</u>	<u>[Fe^{3+}, 3Cl^-]</u>	<u>FeCl_3</u>
*other name: <u>ferric chloride</u>			
37. calcium bisulfate	<u>ionic</u>	<u>[Ca^{2+}, 2HSO_4^-]</u>	<u>$\text{Ca}(\text{HSO}_4)_2$</u>
other name: <u>calcium hydrogen sulfate</u>			
38. aluminum bisulfite*	<u>ionic</u>	<u>[Al^{3+}, 3HSO_3^-]</u>	<u>$\text{Al}(\text{HSO}_3)_3$</u>
*other name: <u>aluminum hydrogen sulfite</u>			

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39. <u>aluminum bisulfate</u> *	<u>ionic</u>	<u>$[Al^{3+}, 3HSO_4^-]$</u>	<u>$Al(HSO_4)_3$</u>
*other name: <u>aluminum hydrogen sulfate</u>			
40. <u>selenium trioxide</u>	<u>covalent</u>	<u>N/A</u>	<u>SeO_3</u>
41. <u>boron trichloride</u>	<u>covalent</u>	<u>N/A</u>	<u>BCl_3</u>
42. cuprous nitrate	<u>ionic</u>	<u>$[Cu^+, NO_3^-]$</u>	<u>$CuNO_3$</u>
43. <u>mercury (I) bromide</u>	<u>ionic</u>	<u>$[Hg_2^{2+}, 2Br^-]$</u>	<u>Hg_2Br_2</u>
44. nitric acid	<u>ionic</u>	<u>$[H^+, NO_3^-]$</u>	<u>HNO_3</u>
45. lead(II) acetate	<u>ionic</u>	<u>$[Pb^{2+}, 2C_2H_3O_2^-]$</u>	<u>$Pb(C_2H_3O_2)_2$</u>
46. sulfurous acid	<u>ionic</u>	<u>$[2H^+, SO_3^{2-}]$</u>	<u>H_2SO_3</u>
47. chromic acid	<u>ionic</u>	<u>$[2H^+, CrO_4^{2-}]$</u>	<u>H_2CrO_4</u>
48. <u>hydrochloric acid</u>	<u>ionic</u>	<u>$[H^+, Cl^-]$</u>	<u>$HCl(aq)$</u> include "aq" state!
49. mercurous sulfide	<u>ionic</u>	<u>$[Hg_2^{2+}, S^{2-}]$</u>	<u>Hg_2S</u>
50. *sodium hydrogen sulfate	<u>ionic</u>	<u>$[Na^+, HSO_4^-]$</u>	<u>$NaHSO_4$</u>
*other name: <u>sodium bisulfate</u>			
51. <u>nitrous acid</u>	<u>ionic</u>	<u>$[H^+, NO_2^-]$</u>	<u>HNO_2</u>
52. <u>perbromic acid</u>	<u>ionic</u>	<u>$[H^+, BrO_4^-]$</u>	<u>$HBrO_4$</u>
53. sulfur hexafluoride	<u>covalent</u>	<u>N/A</u>	<u>SF_6</u>
54. <u>hydrobromic acid</u>	<u>ionic</u>	<u>$[H^+, Br^-]$</u>	<u>$HBr(aq)$</u>

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2. <u>zinc chloride</u>	<u>ionic</u>	[Zn^{2+} , 2 Cl^-]	<u>ZnCl_2</u>
3. <u>Carbon dioxide</u>	<u>covalent</u>	<u>N/A</u>	<u>CO_2</u>
4. <u>iron(II) cyanide</u>	<u>ionic</u>	[Fe^{2+} , 2 CN^-]	<u>$\text{Fe}(\text{CN})_2$</u>
5. <u>aluminum sulfate</u>	<u>ionic</u>	[Al^{3+} , SO_4^{2-}]	<u>$\text{Al}_2(\text{SO}_4)_3$</u>
6. <u>arsenic trihydride</u>	<u>covalent</u>	<u>N/A</u>	<u>AsH_3</u>
7. <u>ammonium chromate</u>	<u>ionic</u>	[2 NH_4^+ , CrO_4^{2-}]	<u>$(\text{NH}_4)_2\text{CrO}_4$</u>
8. <u>Calcium phosphate</u>	<u>ionic</u>	[3 Ca^{2+} , 2 PO_4^{3-}]	<u>$\text{Ca}_3(\text{PO}_4)_2$</u>
9. <u>silicon tetrafluoride</u>	<u>covalent</u>	<u>N/A</u>	<u>SiF_4</u>
10. <u>Copper(II) chloride</u>	<u>ionic</u>	[Cu^{2+} , 2 Cl^-]	<u>CuCl_2</u>
11. <u>iron(II) permanganate</u>	<u>ionic</u>	[Fe^{2+} , 2 MnO_4^-]	<u>$\text{Fe}(\text{MnO}_4)_2$</u>
12. <u>Cobalt(II) hydrogen phosphate</u>	<u>ionic</u>	[Co^{2+} , HPO_4^{2-}]	<u>CoHPO_4</u>
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14. <u>magnesium phosphide</u>	<u>ionic</u>	[3 Mg^{2+} , 2 P^{3-}]	<u>Mg_3P_2</u>
15. <u>sodium carbonate</u>	<u>ionic</u>	[2 Na^+ , CO_3^{2-}]	<u>Na_2CO_3</u>
16. <u>nickel perchlorate</u>	<u>ionic</u>	[Ni^{2+} , 2 ClO_4^-]	<u>$\text{Ni}(\text{ClO}_4)_2$</u>
17. <u>Copper(II) acetate</u>	<u>ionic</u>	[Cu^{2+} , $\text{C}_2\text{H}_3\text{O}_2^-$]	<u>$\text{Cu}(\text{C}_2\text{H}_3\text{O}_2)_2$</u>
18. <u>cobalt(III) hydroxide</u>	<u>ionic</u>	[Co^{3+} , 3 OH^-]	<u>$\text{Co}(\text{OH})_3$</u>
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23. mercury(I) chloride	<u>ionic</u>	<u>[Hg₂²⁺, 2Cl⁻]</u>	<u>Hg₂Cl₂</u>
24. <u>dinitrogen tetroxide</u>	<u>Covalent</u>	<u>N/A</u>	<u>N₂O₄</u>
25. chlorine dioxide	<u>Covalent</u>	<u>N/A</u>	<u>ClO₂</u>
26. <u>silver nitrate</u>	<u>ionic</u>	<u>[Ag⁺, NO₃⁻]</u>	<u>AgNO₃</u>
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32. <u>gallium sulfide</u>	<u>ionic</u>	<u>[2Ga³⁺, 3S²⁻]</u>	<u>Ga₂S₃</u>
33. <u>lead(IV) oxide</u>	<u>ionic</u>	<u>[Pb⁴⁺, O²⁻]</u>	<u>PbO₂</u>
34. hydrogen chloride	<u>Covalent</u>	<u>N/A</u>	<u>HCl</u>
35. zinc acetate	<u>ionic</u>	<u>[Zn²⁺, 2C₂H₃O₂⁻]</u>	<u>Zn(C₂H₃O₂)₂</u>
36. <u>iron(III) chloride</u> *	<u>ionic</u>	<u>[Fe³⁺, 3Cl⁻]</u>	<u>FeCl₃</u>
*other name: <u>ferric chloride</u>			
37. calcium bisulfate	<u>ionic</u>	<u>[Ca²⁺, 2HSO₄⁻]</u>	<u>Ca(HSO₄)₂</u>
other name: <u>calcium hydrogen sulfate</u>			
38. aluminum bisulfite*	<u>ionic</u>	<u>[Al³⁺, 3HSO₃⁻]</u>	<u>Al(HSO₃)₃</u>
*other name: <u>aluminum hydrogen sulfite</u>			

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*other name: <u>aluminum hydrogen sulfate</u>			
40. <u>selenium trioxide</u>	<u>covalent</u>	<u>N/A</u>	<u>SeO_3</u>
41. <u>boron trichloride</u>	<u>covalent</u>	<u>N/A</u>	<u>BCl_3</u>
42. cuprous nitrate	<u>ionic</u>	<u>$[Cu^+, NO_3^-]$</u>	<u>$CuNO_3$</u>
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48. <u>hydrochloric acid</u>	<u>ionic</u>	<u>$[H^+, Cl^-]$</u>	<u>$HCl(aq)$</u> include "aq" state!
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51. <u>nitrous acid</u>	<u>ionic</u>	<u>$[H^+, NO_2^-]$</u>	<u>HNO_2</u>
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53. sulfur hexafluoride	<u>covalent</u>	<u>N/A</u>	<u>SF_6</u>
54. <u>hydrobromic acid</u>	<u>ionic</u>	<u>$[H^+, Br^-]$</u>	<u>$HBr(aq)$</u>