50 Ways to Name Your Compound

All of the compounds that you will be asked to name consist of two parts…

Part 1	Part 2	Example		Rule
Metal (single valent) (or ammonium)	Non-metal	NaCl,	sodium chloride	Name both parts, ends in -ide
	Polyatomic ion	$CaCO_3$	calcium carbonate	Name both parts
Metal (multivalent)	Non-metal	CuCl,	copper(I) chloride	Name both parts, ends in -ide, add valence after metal
	Polyatomic ion	$Fe_2(CO_3)_3$	iron(III) carbonate	Name both parts, add valence after metal
(Latin/old)	Non-metal or Polyatomic ion	$Fe_2(CO_3)_3$, CuCl	ferric carbonate, cuprous chloride	Metal has Latin name (ic for higher valence, ous for lower)
Non-metal	Non-metal	CO_2	carbon dioxide	Use Greek prefix system (mono- not used for 1st element)
Hydrogen	Non-metal	HCl	hydrogen chloride	If not aqueous, name hydrogen and non-metal (ending in -ide)
		HCl(aq)	hydrochloric acid	If aqueous, "hydro" + non-metal + "ic acid"
Hydrogen	Polyatomic ion	H_2SO_4	sulphuric acid	Name polyatomic ion (ending is -ic instead of -ate or -ous instead of -ite), add "acid"

Note: no special naming is given for bases. These are considered as a metal + polyatomic ion (OH^- being a polyatomic ion)

Assignment: write the corresponding name or formula for each of the following:

1. lead(II) sulfide
2. perchloric acid
3. hydrogen fluoride
4. zinc hydroxide
5. hydrobromic acid
6. $SF_6(l)$
7. $HNO_2(aq)$
8. HCl(g)
9. $PbCl_2$
10. $ZnSO_4$
11. ammonium carbonate
12. chromium(III) sulfite
13. nickel(II) sulfate hexahydrate
14. hydrosulfuric acid
15. sulfur trioxide
16. H_2CrO_4
17. $A1_2O_3$
18. N_2O_3
19. H_2SO_3
20. HgO(aq)
21. iron(II) nitride
22. tetraphosphorus decaoxide
23. copper(I) oxide
24. hypochlorous acid
25. potassium peroxide
26. $CuSO_3$
27. CO
28. MgS
29. $KClO_2$
30. HI(aq)
31. nitrogen trichloride
32. plumbic carbonate
33. potassium hydrogen sulfite
34. boric acid
35. barium sulfite
36. $SnCl_2$
37. $CaHPO_3(s)$
38. $H_2S(g)$
39. Li_2O_2
40. $Mn(NO_2)_2$
41. mercuric phosphate
42. sodium hydrogen carbonate
43. copper(I) hydrogen sulfate
44. carbon tetrachloride
45. ammonium phosphate
46. $SO_2(aq)$
47. $MgSO_4 \cdot 9H_2O$
48. $HC_2H_3O_2$
49. P_2O_3
50. H_3PO_3