

Laboratory: Naming Compounds

Part A: Nomenclature of Binary Compounds:

Ionic Compounds (Metal + Non-Metal)

	Compound Formula	Cation Formula and name	Anion Formula and name	Compound Name
Example :	NaCl	Na ⁺ , sodium ion	Cl ⁻ , chloride ion	Sodium chloride
1.		Ca ²⁺ , calcium ion		Calcium bromide
2.				Magnesium nitride
3.		K ⁺ , potassium ion	S ²⁻ , sulfide ion	
4.	ZnO			
5.		Sn ⁴⁺ , tin(IV) ion	O ²⁻ , oxide ion	
6.	Cr ₂ S ₃			
7.				Copper(I) phosphide

Molecular Compounds (Non-Metal + Non-Metal)

	Compound Formula	Compound Name
Example:	N ₂ O ₃	Dinitrogen trioxide
1.	SF ₆	
2.		Carbon monoxide

Part B: Nomenclature of Binary Compounds:

Ionic Compounds (Metal + Non-Metal)

	Compound Formula	Cation Formula and name	Anion Formula and name	Compound Name
1.	RbI	Rb ⁺ , rubidium ion		
2.				Calcium nitride
3.				Titanium(IV) chloride
4.	SrS			
5.	Au ₂ O ₃			
6.		Hg ²⁺ , mercury(II) ion		Mercury(II) oxide
7.			P ³⁻ , phosphide ion	Cadmium phosphide

Molecular Compounds (Non-Metal + Non-Metal)

	Compound Formula	Compound Name
1.	ICI	
2.		Dinitrogen pentoxide
3.	BrF ₅	

Chemical Formulas

Part C:

1. Name the following compounds:

- a) NaF
- b) PbS₂
- c) TiO₂
- d) Cr₂O₃
- e) Zn₃P₂
- f) MnO₂
- g) PI₃
- h) S₂Br₂
- i) IBr₅
- j) XeF₄

2. Write the formulas for the following compounds:

- a) Barium iodide
- b) Palladium (II) bromide
- c) Zinc arsenide
- d) Gold (III) oxide
- e) Lead (IV) oxide
- f) Copper (I) sulfide
- g) Sulfur hexafluoride
- h) Nitrogen trichloride
- i) Chlorine Dioxide
- j) Phosphorus pentachloride

Name the following compounds:

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|-------------------------------------------------------|------------------------------------------------------|
| 1. ZnS | 26. NH ₃ |
| 2. Mg (ClO ₂) ₂ | 27. PCl ₅ |
| 3. Ca (OH) ₂ | 28. Na ₂ S ₂ O ₃ |
| 4. KMnO ₄ | 29. KH ₂ PO ₄ |
| 5. Ag ₃ PO ₄ | 30. CoS |
| 6. H ₂ S | 31. Cd ₃ (AsO ₄) ₂ |
| 7. CaO | 32. NaHSO ₃ |
| 8. H ₂ CO ₃ | 33. Li ₂ HPO ₄ |
| 9. Ni (NO ₃) ₂ | 34. H ₃ PO ₃ |
| 10. KCl | 35. MnSO ₄ |
| 11. Li ₂ O | 36. Ca (IO) ₂ |
| 12. Al (H ₂ PO ₄) ₃ | 37. SiO ₂ |
| 13. MgO | 38. CuCl |
| 14. SnF ₂ | 39. CrCl ₃ |
| 15. AsCl ₅ | 40. CaSO ₄ · 2H ₂ O |
| 16. Hg (OH) ₂ | 41. Hg ₂ Cl ₂ |
| 17. HF | 42. P ₂ O ₃ |
| 18. FeSO ₄ | 43. HClO |
| 19. SnCl ₄ | 44. NO ₂ |
| 20. AsBr ₃ | 45. NaH |
| 21. KCN | 46. H ₂ O ₂ |
| 22. NH ₄ OH | 47. Pb (NO ₃) ₂ |
| 23. NaHCO ₃ | 48. H ₂ Se |
| 24. HNO ₂ | 49. H ₃ PO ₂ |
| 25. CS ₂ | 50. CaH ₂ |

Write the formulas for the following compounds:

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| 51. lithium fluoride | 76. strontium carbonate |
| 52. phosphoric acid | 77. calcium nitrate |
| 53. boron trichloride | 78. sulfur dichloride |
| 54. ferric phosphate | 79. tin(IV) oxide |
| 55. carbon tetrachloride | 80. sodium bisulfite |
| 56. silver sulfide | 81. strontium chlorate |
| 57. antimony trichloride | 82. aluminum hydroxide |
| 58. barium carbonate | 83. cadmium nitrate |
| 59. magnesium | 84. phosphorus trioxide |
| 60. lead (IV) sulfate | 85. potassium hydride |
| 61. magnesium chloride pentahydrate | 86. calcium nitride |
| 62. ammonium sulfate | 87. sulfur trioxide |
| 63. hydrogen fluoride | 88. aluminum nitrite |
| 64. hydrobromic acid | 89. silver oxide |
| 65. tin(II) sulfide | 90. ammonium phosphate |
| 66. beryllium chloride | 91. cupric bromate |
| 67. calcium bicarbonate | 92. lithium fluoride |
| 68. copper(II) cyanide | 93. sodium bisulfate |
| 69. cesium iodite | 94. radium carbonate |
| 70. zinc phosphate | 95. copper(II) oxide |
| 71. nitrogen pentoxide | 96. iron(III) sulfate |
| 72. ferrous chromate | 97. magnesium perchlorate |
| 73. bromous acid | 98. potassium hypochlorite |
| 74. perchloric acid | 99. disodium monohydrogen phosphate |
| 75. potassium cyanide | 100. hydrosulfuric acid |