

Solve. You must write the balanced equation for the reactions.

(Questions 1-3) Aluminum reacts with oxygen

1. How many grams of aluminum oxide would form if 12.5 grams of aluminum burned with 15.6 g of oxygen?
2. How many grams of oxygen are needed to react with 7.5 moles of aluminum?
3. How many grams of aluminum oxide are produced from 100.0 grams of aluminum if the percentage yield is 45%?

(Questions 4-5) C_3H_8 is combusted.

4. How many grams of carbon dioxide will form if 6.5 L of oxygen is consumed at STP?
5. If 30.0 L of oxygen are used at 1.45 atm and 35.0 °C, how many grams of water will form?

(Questions 6-7) Silver nitrate reacts with hydrochloric acid

6. How many grams of silver chloride will be produced from the reaction of excess silver nitrate and 35.0 ml of 2.50 M hydrochloric acid?
7. What volume of 3.9 M silver nitrate must be reacted with excess acid to produce 28.6 grams of silver chloride?

IB CHEMISTRY NOMENCLATURE WORKSHEET

Chemical Formula Nomenclature Practice:

Use the stock form for the transition metals.

Give the formula for the following:

1. sulfur dioxide _____
2. sodium thiosulfate _____
3. ammonium phosphate _____
4. potassium chlorate _____
5. lithium hydroxide _____
6. zinc nitrite _____
7. sodium sulfate _____
8. cobalt (IV) bisulfite _____
9. cadmium nitrate _____
10. nitrogen monoxide _____
11. hydrogen peroxide _____
12. carbon monoxide _____
13. silicon dioxide _____
14. copper (I) bromide _____
15. iron (II) chromate _____
16. mercury (I) fluoride _____
17. carbon tetrachloride _____
18. carbon dioxide _____
19. cobalt (II) chloride _____
20. aluminum carbonate _____
21. diphosphorus pentoxide _____
22. cesium oxalate _____
23. nickel (II) sulfite _____
24. barium hypochlorite _____
25. phosphorus pentachloride _____
26. manganese(VII)oxide _____
27. copper (II) sulfate _____
28. nitrogen dioxide _____
29. mercury (II) chloride _____
30. tin (II) bromide _____
31. silver iodide _____
32. magnesium bisulfite _____
33. silicon disulfide _____
34. beryllium iodate _____
35. platinum (IV) cyanide _____
36. tungsten (IV) thiosulfate _____
37. dinitrogen monoxide _____
38. iron III oxide _____
39. gold (III) chloride _____
40. strontium sulfide _____
41. uranium (VI) fluoride _____
42. lead (II) bicarbonate _____
43. Tin (IV) fluoride _____
44. sodium dichromate _____
45. water _____
46. lead (II) peroxide _____
47. calcium phosphide _____
48. rubidium chromate _____
49. nickel (II) chlorate _____
50. magnesium nitride _____

CHEMISTRY IA NOMENCLATURE WORKSHEET

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|-----------------------------|-------|----------------------------|-------|
| 51. ammonium sulfide | _____ | 74. mercury (I) acetate | _____ |
| 52. aluminum phosphide | _____ | 75. calcium bisulfate | _____ |
| 53. zinc dichromate | _____ | 76. lithium hydride | _____ |
| 54. aluminum hydride | _____ | 77. lithium chlorate | _____ |
| 55. strontium phosphate | _____ | 78. cupric perchlorate | _____ |
| 56. tin (II) phosphate | _____ | 79. gold (III) perchlorate | _____ |
| 57. chromium (III) nitrate | _____ | 80. aluminum bisulfite | _____ |
| 58. cobalt (II) chlorate | _____ | 81. iron (II) phosphate | _____ |
| 59. cesium cyanide | _____ | 82. copper (II) chloride | _____ |
| 60. bismuth (III) bisulfate | _____ | 83. ammonium nitrate | _____ |
| 61. magnesium chlorite | _____ | 84. mercury (I) sulfate | _____ |
| 62. arsenic trichloride | _____ | 85. cesium nitrite | _____ |
| 63. tin (II) oxide | _____ | 86. sodium bisulfate | _____ |
| 64. lead (II) perchlorate | _____ | 87. hydrochloric acid | _____ |
| 65. iron (II) bromide | _____ | 88. sulfuric acid | _____ |
| 66. silver sulfite | _____ | 89. phosphoric acid | _____ |
| 67. potassium permanganate | _____ | 90. perchloric acid | _____ |
| 68. tin (IV) sulfate | _____ | 91. hydrobromic acid | _____ |
| 69. cobalt (IV) fluoride | _____ | 92. tin (IV) permanganate | _____ |
| 70. cesium bromate | _____ | 93. hydroiodic acid | _____ |
| 71. iron (III) dichromate | _____ | 94. nitric acid | _____ |
| 72. beryllium iodide | _____ | 95. magnesium dichromate | _____ |
| 73. copper (I) carbonate | _____ | | |

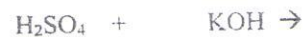
CHEMISTRY 1A NOMENCLATURE WORKSHEET

Give the names of the following compounds

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|---|-------|--|-------|
| 1. NaCl | _____ | 23. $\text{AgC}_3\text{H}_3\text{O}_2$ | _____ |
| 2. AgNO_3 | _____ | 24. Cr_2O_3 | _____ |
| 3. BaCrO_4 | _____ | 25. KBr | _____ |
| 4. KOH | _____ | 26. $\text{Cd}(\text{HSO}_4)_2$ | _____ |
| 5. ZnSO_4 | _____ | 27. CO_2 | _____ |
| 6. MgBr_2 | _____ | 28. H_2O_2 | _____ |
| 7. Al_2O_3 | _____ | 29. CaSO_4 | _____ |
| 8. CdCl_2 | _____ | 30. $\text{Ni}_3(\text{PO}_4)_2$ | _____ |
| 9. NH_4I | _____ | 31. AsF_3 | _____ |
| 10. $\text{Fe}(\text{OH})_3$ | _____ | 32. $\text{Co}_3(\text{AsO}_4)_2$ | _____ |
| 11. $\text{Ba}_3(\text{PO}_4)_2$ | _____ | 33. ZnCr_2O_7 | _____ |
| 12. KClO_3 | _____ | 34. KCN | _____ |
| 13. Na_2CO_3 | _____ | 35. $\text{Bi}(\text{NO}_3)_3$ | _____ |
| 14. $(\text{NH}_4)_2\text{C}_2\text{O}_4$ | _____ | 36. CaH_2 | _____ |
| 15. $(\text{NH}_4)_2\text{CO}_3$ | _____ | 37. SnS_2 | _____ |
| 16. NiF_2 | _____ | 38. $\text{Cr}_2(\text{SO}_4)_3$ | _____ |
| 17. $\text{Zn}(\text{ClO}_3)_2$ | _____ | 39. $\text{Hg}(\text{BrO}_3)_2$ | _____ |
| 18. $\text{Ca}(\text{OH})_2$ | _____ | 40. N_2O_4 | _____ |
| 19. BaSO_3 | _____ | 41. $\text{Pb}(\text{HCO}_3)_2$ | _____ |
| 20. AlCl_3 | _____ | 42. $\text{Na}_2\text{Cr}_2\text{O}_7$ | _____ |
| 21. Cu_2CO_3 | _____ | 43. PbO_2 | _____ |
| 22. FeO | _____ | (2 possible names) | _____ |

Predicting Products of Chemical Reactions

Predict the product and write a balanced equation. Then, identify the reaction type.



Name: _____

Empirical/Molecular Formulas Worksheet

Show all work

- 1) Determine the empirical formula for this compounds from its percentage composition:
85.60 % C, 14.40 % H

- 2) A compound has 40.0 g carbon, 6.70 g hydrogen, and 53.3 g oxygen. What is the empirical formula?

- 3) Adipic acid is an organic compound composed of 4.931 g carbon, 4.379 g oxygen and 0.690 g hydrogen. What is the empirical formula of adipic acid?

- 6) A compound is composed of 71.65 g Cl, 24.27 g C and 4.07 g H. If its molar mass is known to be 98.96 g, what is its molecular formula?
- 7) What is the formula of a hydrate of magnesium sulfate if the hydrate is 48.83% magnesium sulfate?
- 8) A 5.00 g sample of $\text{Cu}(\text{NO}_3)_2 \cdot ?\text{H}_2\text{O}$ is heated. After the water has been driven off, 3.90 g of $\text{Cu}(\text{NO}_3)_2$ remain.
- What is the percent of water in the hydrate?
 - What is the percent of anhydrous salt?
 - What is the mole ratio of water molecules to $\text{Cu}(\text{NO}_3)_2$?
 - What is the formula of this hydrate? Name it.