

Revised August 2010

AP WORKSHEET 2e: Inorganic Nomenclature II

Add either a name or a formula to complete each table. (100)

1. Potassium dichromate	$K_2Cr_2O_7$
2. Lithium sulfide	Li_2S
3. Potassium bromide	KBr
4. Cesium iodide	CsI
5. Calcium phosphide	Ca_3P_2
6. Sodium fluoride	NaF
7. Strontium oxide	SrO
8. Beryllium sulfide	BeS
9. Magnesium bromide	$MgBr_2$
10. Lithium oxide	Li_2O
11. Strontium chloride	$SrCl_2$
12. Barium bromide	$BaBr_2$
13. Magnesium sulfide	MgS
14. Magnesium iodide	MgI_2
15. Hydrogen fluoride (Hydrogen monofluoride)	HF
16. Barium phosphide	Ba_3P_2
17. Sodium hydrogen phosphate	Na_2HPO_4
18. Potassium chloride	KCl
19. Lithium nitride	Li_3N
20. Calcium sulfide	CaS
21. Rubidium oxide	Rb_2O
22. Strontium nitride	Sr_3N
23. Cesium phosphide	Cs_3P
24. Magnesium carbonate	$MgCO_3$
25. Beryllium sulfate	$BeSO_4$



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26. Dinitrogen Tetraoxide	N_2O_4
27. Carbon dioxide	CO_2
28. Mercury(I) chloride	$HgCl$
29. Hydroiodic acid	$HI(aq)$
30. Iodic acid	$HO_3(aq)$
31. Perbromic acid	$HBrO_4(aq)$
32. Hypobromous acid	$HBrO(aq)$
33. Phosphorus pentachloride	PCl_5
34. Iodine monochloride	ICl
35. Antimony(III) fluoride	SbF_3
36. Bromine monofluoride	BrF
37. Bromine dioxide	BrO_2
38. Dinitrogen pentoxide	N_2O_5
39. Carbon monosulfide	CS
40. Tellurium dioxide	TeO_2
41. Phosphorus tribromide	PBr_3
42. Carbon tetraiodide	$C I_4$
43. Vanadium(V) chromate	$V_2(CrO_4)_5$
44. Zinc carbonate	$ZnCO_3$
45. Silver hydroxide	$AgOH$
46. Vanadium(III) chromate	$V_2(CrO_4)_3$
47. Mercury(II) iodide	HgI_2
48. Uranium(V) nitrate	$U(NO_3)_5$
49. Nickel (III) nitride	Ni_3N
50. Sulfuric acid	$H_2SO_4(aq)$

MOLES \leftrightarrow GRAMS, MOLARITY, AND STOICHIOMETRY

- a. Use the Periodic Table included in this packet for the atomic masses. **Do not round the atomic masses.**
- b. Show cancellation of units and report the final answer with the correct unit and correct number of sig figs.

1. Convert the following to moles :

$$\text{a. } 36.85 \text{ g C} = \underline{3.07 \text{ mol}} \quad 36.85 \text{ g} \times \frac{1 \text{ mole}}{12.0 \text{ g}} = 3.07 \text{ mol}$$

$$\text{b. } 170 \text{ g O}_2 = \underline{5.3 \text{ mol}} \quad 170 \text{ g O}_2 \times \frac{1 \text{ mole}}{32 \text{ g O}_2} =$$

$$\text{c. } 24.0 \text{ g Cu} = \underline{0.616 \text{ mol}}$$

$$\text{d. } 165.02 \text{ g H}_2\text{O} = \underline{9.1678 \text{ mol}}$$

$$\text{e. } 320.0 \text{ g CaCO}_3 = \underline{3.200 \text{ mol}}$$

$$\text{f. } 50.020 \text{ g Ca}_3(\text{PO}_4)_2 = \underline{0.16135 \text{ mol}}$$

2. Convert the following to grams:

$$\text{a. } 1.20 \text{ mol H}_2 = \underline{2.42 \text{ g}} \quad 1.20 \text{ mol H}_2 \times \frac{2.02 \text{ g}}{1 \text{ mol H}_2} =$$

$$\text{b. } 0.052 \text{ mol Ca} = \underline{2.1 \text{ g}} \quad 0.052 \text{ mol Ca} \times \frac{40.08 \text{ g}}{1 \text{ mol}} =$$

$$\text{c. } 10.0 \text{ mol CO}_2 = \underline{4.00 \times 10^3 \text{ g}}$$

$$\text{d. } 0.00650 \text{ mol AgNO}_3 = \underline{1.11 \text{ g}}$$

$$\text{e. } 1.025 \text{ mole Al}_2(\text{SO}_4)_3 = \underline{153.75 \text{ g}}$$

5. Translate the following word equations to a balanced chemical

a. iron (II) oxide + aluminum \rightarrow iron + aluminum oxide



b. hydrochloric acid + sodium hydroxide \rightarrow water + sodium chloride



c. calcium phosphate + sulfuric acid \rightarrow calcium sulfate + phosphoric acid



d. calcium carbonate \rightarrow calcium + carbon + oxygen gas



e. sodium chloride + silver nitrate \rightarrow sodium nitrate + silver chloride



f. potassium hydroxide + sulfuric acid \rightarrow potassium sulfate + water



6. Identify each of the equations you balanced in #5 as **reduction-oxidation**, **precipitation** or **acid-base (neutralization)** reactions.

- a. Redox
- b. OXI or acid base / neutralization
- c. acid base / neutral
- d. Redox
- e. ppt / OXI esp.
- f. neutral.