Chemistry – Chapter 7: Language of Chemistry

Nomenclature Practice

Name: Key Date: _____ Period: ____

Ionic Compounds:

State how an ionic compound can be identified: It must be a metal-nonmetal compound or contain one or more polyatomic ions

Explain how the formula for an ionic compound must be determined: The ratio of cations to anions must be such that electrons lost = electrons gained

Ionic Compound Practice

Part 1. Write the name of the compound given.

Compound	Cation (include charge)	Anion (include charge)	Name (Include both stock and Latin where appropriate.
Mg_3N_2	**Mg^{2+}**	**N^{3-}**	**Magnesium nitride**
Al_2O_3	Al^{3+}	O^{2-}	aluminum oxide
$BaCl_2$	Ba^{2+}	Cl^{1-}	barium chloride
Li_2S	Li^{+}	S^{2-}	Lithium Sulfide
Ga_2Se_3	Ga^{3+}	Se^{2-}	gallium Selenide
Sr_3P_2	Sr^{2+}	P^{3-}	Strontium phosphide
ZnF_2	Zn^{2+}	F^{1-}	Zinc Fluoride
CuO	Cu^{2+}	O^{2-}	Copper(II) oxide, Cupric oxide
Cu_2O	Cu^{1+}	O^{2-}	Copper(I) oxide, Cuprous oxide
$FeCl_3$	Fe^{3+}	Cl^{1-}	Iron(III) chloride, Ferric Chloride
$PbBr_4$	Pb^{4+}	Br^{1-}	lead(IV) bromide, Plumbic bromide
CoI_2	Co^{2+}	I^{1-}	Cobalt(II) iodide, cobaltous iodide
$AgNO_3$	Ag^{1+}	NO_3^{1-}	Silver nitrate
K_3PO_4	K^{1+}	PO_4^{3-}	potassium phosphate
Na_2CO_3	Na^{1+}	CO_3^{2-}	Sodium Carbonate
$Mn(NO_2)_3$	Mn^{3+}	NO_2^{1-}	manganese(III) nitrite, manganic nitrite
$Cr(OH)_3$	Cr^{3+}	OH^{1-}	Chromium(III) hydroxide, Chromic hydroxide
$Ca(C_2H_3O_2)_2$	Ca^{2+}	$C_2H_3O_2^{1-}$	Calcium Acetate
$HgSO_3$	Hg^{2+}	SO_3^{2-}	mercury(II) sulfite, mercuric sulfite
$Co_2(SO_4)_3$	Co^{3+}	SO_4^{2-}	cobalt(III) sulfate, Cobaltic sulfate

Ionic Compound Practice

Part 2. Write the formula from the name given.

Compound	Cation (include charge)	Anion (include charge)	Formula
Strontium chloride	Sr^{2+}	Cl^-	$SrCl_2$
Barium oxide	Ba^{2+}	O^{2-}	BaO
Aluminum sulfide	Al^{3+}	S^{2-}	Al_2S_3
Rubidium phosphide	Rb^{1+}	P^{3-}	Rb_3P
Zinc fluoride	Zn^{2+}	F^{1-}	ZnF_2
Potassium bromide	K^+	Br^{1-}	KBr
Silver selenide	Ag^{1+}	Se^{2-}	Ag_2Se
Iron(III)nitride	Fe^{3+}	N^{3-}	FeN
Cupric oxide	Cu^{2+}	O^{2-}	CuO
Tin(IV)chloride	Sn^{4+}	Cl^{1-}	$SnCl_4$
Cobaltous sulfide	Co^{2+}	S^{2-}	CoS
Aluminum nitrate	Al^{3+}	NO_3^{1-}	$Al(NO_3)_3$
Silver hydroxide	Ag^{1+}	OH^{1-}	$AgOH$
Potassium sulfite	K^+	SO_3^{2-}	K_2SO_3
Chromium(III)acetate	Cr^{3+}	$C_2H_3O_2^-$	$Cr(C_2H_3O_2)_3$
Manganic carbonate	Mn^{3+}	CO_3^{2-}	$Mn_2(CO_3)_3$
Calcium bicarbonate	Ca^{2+}	HCO_3^-	$Ca(HCO_3)_2$
Ferrous phosphate	Fe^{2+}	PO_4^{3-}	$Fe_3(PO_4)_2$
Mercury(I)nitride	Hg_2^{2+}	N^{3-}	$(Hg_2)_3N_2$
Ammonium phosphate	NH_4^+	PO_4^{3-}	$(NH_4)_3PO_4$