***Chemistry***

**2: Atoms, Molecules, and Ions**

**2.7: Chemical Nomenclature**

51. Name the following compounds:

(a) CsCl

(b) BaO

(c) K2S

(d) BeCl2

(e) HBr

(f) AlF3

Solution

(a) cesium chloride; (b) barium oxide; (c) potassium sulfide; (d) beryllium chloride; (e) hydrogen bromide; (f) aluminum fluoride

53. Write the formulas of the following compounds:

(a) rubidium bromide

(b) magnesium selenide

(c) sodium oxide

(d) calcium chloride

(e) hydrogen fluoride

(f) gallium phosphide

(g) aluminum bromide

(h) ammonium sulfate

Solution

(a) RbBr; (b) MgSe; (c) Na2O; (d) CaCl2; (e) HF; (f) GaP; (g) AlBr3; (h) (NH4)2SO4

55. Write the formulas of the following compounds:

(a) chlorine dioxide

(b) dinitrogentetraoxide

(c) potassium phosphide

(d) silver(I) sulfide

(e) aluminum nitride

(f) silicon dioxide

Solution

(a) ClO2; (b) N2O4; (c) K3P; (d) Ag2S; (e) AlN; (f) SiO2

57. Each of the following compounds contains a metal that can exhibit more than one ionic charge. Name these compounds:

(a) Cr2O3

(b) FeCl2

(c) CrO3

(d) TiCl4

(e) CoO

(f) MoS2

Solution

(a) chromium(III) oxide; (b) iron(II) chloride; (c) chromium(VI) oxide; (d) titanium(IV) chloride; (e) cobalt(II) oxide; (f) molybdenum(IV) sulfide

59. The following ionic compounds are found in common household products. Write the formulas for each compound:

(a) potassium phosphate

(b) copper(II) sulfate

(c) calcium chloride

(d) titanium dioxide

(e) ammonium nitrate

(f) sodium bisulfate (the common name for sodium hydrogen sulfate)

Solution

(a) K3PO4; (b) CuSO4; (c) CaCl2; (d) TiO2; (e) NH4NO3; (f) NaHSO4

61. What are the IUPAC names of the following compounds?

(a) manganese dioxide

(b) mercurous chloride (Hg2Cl2)

(c) ferric nitrate [Fe(NO3)3]

(d) titanium tetrachloride

(e) cupric bromide (CuBr2)

Solution

(a) manganese(IV) oxide; (b) mercury(I) chloride; (c) iron(III) nitrate; (d) titanium(IV) chloride; (e) copper(II) bromide

This resource file is copyright 2015, Rice University. All Rights Reserved.