

WKS 7.2 – Formula Writing (1 page)

1. CLASSIFY each of the following substances as:

- Ionic
- Acid
- Covalent

2. Write a CORRECT chemical formula for each of the following substances.

SUBSTANCE NAME	CLASSIFICATION	FORMULA
Cadmium sulfide	ionic = I	CdS
Lead (IV) permanganate	ionic	Pb(MnO ₄) ₄
Phosphoric Acid	acid = A	H ₃ PO ₄ (aq)
Sulfur trioxide	Covalent = C	SO ₃
Tetraphosphorus decoxide	C	P ₄ O ₁₀
Sodium carbonate	I	Na ₂ CO ₃
Cyclobutane		
Magnesium chloride hexahydrate	I	MgCl ₂ · 6H ₂ O
Cesium bicarbonate	I	CsHCO ₃
Aluminum sulfide	I	Al ₂ S ₃
Decane		
Sulfur tetrafluoride	C	SF ₄
Carbon disulfide	C	CS ₂
Ammonium phosphite	I	(NH ₄) ₃ PO ₃
Dinitrogen tetrafluoride	C	N ₂ F ₄
Dichlorine heptaoxide	C	Cl ₂ O ₇
Hydrosulfuric acid	A	H ₂ S(aq)
Barium hyposulfite	I	BaSO ₂
Diarsenic trioxide	C	As ₂ O ₃
Calcium sulfate dihydrate	I	CaSO ₄ · 2H ₂ O
Tin (II) nitride	I	Sn ₃ N ₂
Zinc phosphate	I	Zn ₃ (PO ₄) ₂
Sulfurous acid	A	H ₂ SO ₃ (aq)
Perchloric acid	A	HClO ₄ (aq)

WKS 7.3 – Formula Naming (1 page)

1. CLASSIFY each of the following substances as:

- Ionic
- Acid
- _____ Covalent

2. Write a CORRECT chemical formula for each of the following substances.

SUBSTANCE FORMULA	CLASSIFICATION	NAME
SrS	I	Strontium sulfide
SeO ₂	C	selenium dioxide.
H ₂ SO ₃ (aq)	A	Sulfurous acid
C₇H₁₆		
Cu ₃ P ₂	I	Copper(II) phosphide
Cd(NO ₂) ₂	I	Cadmium nitrite
C₃H₈		
ICI	C	iodine monochloride
H ₂ SO ₄ (aq)	A	sulfuric acid
HCl (aq)	A	hydrochloric acid
MnO ₂	I	manganese (IV) oxide
C₉H₁₈		
NiCl ₂ •6H ₂ O	I	nickel(II) chloride hexahydrate
Fe(C ₂ H ₃ O ₂) ₃	I	iron(III) acetate.
SnCl ₄ •5H ₂ O	I	tin(IV) chloride pentahydrate.
PH ₃	C	phosphorous trihydride
P ₂ Se ₃	C	diphosphorous triselenide
Hg(IO ₂) ₂	I	mercury(II) iodite.
IF ₇	C	iodine heptafluoride
Cu ₃ P	I	copper(I) phosphide
Sn(CN) ₄	I	tin(IV) cyanide
CoSO ₄ •7H ₂ O	I	cobalt(II) sulfate heptahydrate.
C₂H₆		
HBrO ₄ (aq)	A	perbromic acid

WKS 7.4 – Formula Naming, Round Two (1 page)

1. $(\text{NH}_4)_2\text{CO}_3$	Ammonium carbonate	2. Na_2CO_3	Sodium carbonate
3. $\text{Sn}(\text{HCO}_3)_4$	tin(IV) bicarbonate	4. $\text{Hg}(\text{ClO})_2$	mercury(II) hypochlorite
5. $\text{Pb}(\text{ClO}_2)_2$	lead(II) chlorite	6. $\text{HNO}_3 (aq)$	nitric acid
7. $\text{HCl} (aq)$	hydrochloric acid	8. $\text{H}_3\text{PO}_4 (aq)$	phosphoric acid
9. P_2Br_4	diphosphorous tetrabromide	10. $\text{Fe}(\text{NO}_2)_2$	iron(II) nitrite
11. SbCl_3	antimony(III) chloride	12. $\text{Ca}(\text{ClO}_4)_2$	Calcium perchlorate
13. $\text{HC}_2\text{H}_3\text{O}_2 (aq)$	acetic acid	14. $\text{Al}_2(\text{SO}_4)_3$	aluminum sulfate
15. $\text{H}_2\text{SO}_4 (aq)$	Sulfuric acid	16. Fe_2O_3	iron(III) oxide
17. CrCl_3	chromium(III) chloride	18. Cu_2SO_2	copper(I) hyposulfite
19. PF_5	phosphorous pentafluoride	20. IF_5	iodine pentafluoride
21. Ag_2O	silver oxide	22. KClO_4	potassium perchlorate
23. Cl_2O_5	dichlorine pentoxide	24. $\text{Pb}_3(\text{PO}_4)_4$	lead(IV) phosphate
25. CoF_3	cobalt(III) fluoride	26. $\text{Ba}(\text{OH})_2$	barium hydroxide
27. B_2Si	diboron monosilicide	28. N_2H_4	dinitrogen tetrahydride
29. P_4S_5	tetraphosphorous pentasulfide	30. NaHCO_3	Sodium bicarbonate
31. $\text{Sr}_3(\text{PO}_4)_2$	strontium phosphate	32. As_4O_{10}	tetraarsenic decaoxide
33. ClF_3	chlorine trifluoride	34. N_2S	dinitrogen monosulfide
35. HgF_2	mercury(II) fluoride	36. LiMnO_4	lithium permanganate
37. Si_2Br_6	disilicon hexabromide	38. $\text{Bi}_2(\text{SO}_3)_5$	bismuth(V) sulfite
39. $\text{Pb}(\text{ClO}_3)_2 \cdot 3 \text{H}_2\text{O}$	lead(II) chlorate trihydrate	40. SeF_6	Selenium hexafluoride
41. SBr_2	sulfur dibromide	42. Cl_2O	dichlorine monoxide
43. P_2O_5	diphosphorous pentoxide	44. $\text{MgSO}_4 \cdot 9 \text{H}_2\text{O}$	magnesium sulfate nonahydrate

WKS 7.5 – Formula Writing, Round Two (1 page)

1. Selenium trioxide	SeO_3	2. Iron (II) hypobromite	$\text{Fe}(\text{BrO})_2$
3. Copper (I) sulfate	Cu_2SO_4	4. Hexabromide monosilicide	Br_6Si
5. Nitric Acid	$\text{HNO}_3(\text{aq})$	6. Boron trihydride	BH_3
7. Iodine pentabromide	IBr_5	8. Dichlorine heptaoxide	Cl_2O_7
9. Nickel (III) iodide	NiI_3	10. Antimony (III) chloride	SbCl_3
11. Ammonium phosphate	$(\text{NH}_4)_3\text{PO}_4$	12. Hypoiodous Acid	$\text{HIO}(\text{aq})$
13. Silicon dioxide	SiO_2	14. Carbon tetrachloride	CCl_4
15. Nickel (III) nitrate	$\text{Ni}(\text{NO}_3)_3$	16. Zinc bicarbonate	$\text{Zn}(\text{HCO}_3)_2$
17. Cyclohexane		18. Dinitrogen monoxide	N_2O
19. Dinitrogen tetroxide	N_2O_4	20. Copper (II) sulfate pentahydrate	$\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
21. Pentane		22. Chromium (III) bisulfate	$\text{Cr}(\text{HSO}_4)_3$
23. Carbonic Acid	$\text{H}_2\text{CO}_3(\text{aq})$	24. Hydrophosphoric Acid	$\text{H}_3\text{P}(\text{aq})$
25. Perchloric Acid	$\text{HClO}_4(\text{aq})$	26. Silver cyanide	AgCN
27. Magnesium hydroxide	$\text{Mg}(\text{OH})_2$	28. Ammonium Sulfide	$(\text{NH}_4)_2\text{S}$
29. Ammonium chlorate	NH_4ClO_3	30. Potassium oxide	K_2O
31. Iron (III) sulfide	Fe_2S_3	32. Diphosphorous pentoxide	P_2O_5
33. Octane		34. Hydrobromic Acid	$\text{HBr}(\text{aq})$
35. Aluminum sulfite	$\text{Al}_2(\text{SO}_3)_3$	36. Cyclononane	
37. Magnesium sulfate trihydrate	$\text{MgSO}_4 \cdot 3\text{H}_2\text{O}$	38. Bismuth (III) bicarbonate	$\text{Bi}(\text{HCO}_3)_3$
39. Copper (II) carbonate	CuCO_3	40. Fluorine tribromide	FBr_3
41. Iodous Acid	$\text{HIO}_2(\text{aq})$	42. Hyposulfurous acid	$\text{H}_2\text{SO}_2(\text{aq})$