

KEY

Ionic Naming Practice Problems - Solutions

Name the following ionic compounds:

- 1) NaBr sodium bromide
- 2) Sc(OH)₃ scandium hydroxide
- 3) V₂(SO₄)₃ vanadium (III) sulfate
- 4) NH₄F ammonium fluoride
- 5) CaCO₃ calcium carbonate
- 6) NiPO₄ nickel (III) phosphate
- 7) Li₂SO₃ lithium sulfite
- 8) Zn₃P₂ zinc phosphide
- 9) Sr(C₂H₃O₂)₂ strontium acetate
- 10) Cu₂O copper (I) oxide
- 11) Ag₃PO₄ silver phosphate
- 12) YClO₃ yttrium chlorate
- 13) SnS₂ tin (IV) sulfide
- 14) Ti(CN)₄ titanium (IV) cyanide
- 15) KMnO₄ potassium permanganate
- 16) Pb₃N₂ lead (II) nitride
- 17) CoCO₃ cobalt (II) carbonate
- 18) CdSO₃ cadmium sulfite
- 19) Cu(NO₂)₂ copper II nitrite
- 20) Fe(HCO₃)₂ iron (II) bicarbonate

Write the formulas for the following ionic compounds:

- | | |
|--------------------------------------|---|
| 21) lithium acetate | $\text{LiC}_2\text{H}_3\text{O}_2$ |
| 22) iron (II) phosphate | $\text{Fe}_3(\text{PO}_4)_2$ |
| 23) titanium (II) selenide | TiSe |
| 24) calcium bromide | CaBr_2 |
| 25) gallium chloride | GaCl_3 |
| 26) sodium hydride | NaH |
| 27) beryllium hydroxide | $\text{Be}(\text{OH})_2$ |
| 28) zinc carbonate | ZnCO_3 |
| 29) manganese (VII) arsenide | Mn_3As_7 |
| 30) copper (II) chlorate | $\text{Cu}(\text{ClO}_3)_2$ |
| 31) cobalt (III) chromate | $\text{Co}_2(\text{CrO}_4)_3$ |
| 32) ammonium oxide | $(\text{NH}_4)_2\text{O}$ |
| 33) potassium hydroxide | KOH |
| 34) lead (IV) sulfate | $\text{Pb}(\text{SO}_4)_2$ |
| 35) silver cyanide | AgCN |
| 36) vanadium (V) nitride | V_3N_5 |
| 37) strontium acetate | $\text{Sr}(\text{C}_2\text{H}_3\text{O}_2)_2$ |
| 38) molybdenum ^{II} sulfate | MoSO_4 |
| 39) platinum (II) sulfide | PtS |
| 40) ammonium sulfate | $(\text{NH}_4)_2\text{SO}_4$ |

11 IONIC NOMENCLATURE

Write the international chemical formula or the English IUPAC name for each of the compounds given. (This exercise involves all classes of ionic compounds.)

	International Chemical Formula	IUPAC Name
1.	$\text{SrCl}_{2(s)}$	strontium chloride
2.	$\text{RbBr}_{(s)}$	rubidium bromide
3.	$\text{Na}_2\text{O}_{(s)}$	sodium oxide
4.	Al_2S_3	aluminum sulfide
5.	ZnCl_2	zinc chloride
6.	MgI_2	magnesium iodide
7.	$\text{CoCl}_{2(s)}$	cobalt II chloride
8.	$\text{TiO}_{2(s)}$	titanium IV oxide
9.	$\text{Cu}_2\text{O}_{(s)}$	copper I oxide
10.	SnS	tin(II) sulfide
11.	Cr_2O_3	chromium(III) oxide
12.	FeS	iron(II) sulfide
13.	$\text{KC}_6\text{H}_5\text{COO}_{(s)}$	potassium benzoate
14.	$\text{Na}_2\text{S}_2\text{O}_3_{(s)}$	sodium thiosulphate
15.	$\text{NH}_4\text{HCO}_3_{(s)}$	ammonium bicarbonate
16.	$(\text{NH}_4)_2\text{S}$	ammonium sulfide
17.	BaSO_3	barium sulfite
18.	$\text{Mg}(\text{OH})_2$	magnesium hydroxide
19.	$\text{FeSO}_4 \cdot 7\text{H}_2\text{O}_{(s)}$	iron II sulphate heptahydrate
20.	$\text{LiCl} \cdot 4\text{H}_2\text{O}_{(s)}$	lithium chloride tetrahydrate
21.	$\text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}$	sodium sulfate decahydrate
22.	$\text{Au}(\text{NO}_3)_3_{(s)}$	gold III nitrate
23.	$\text{Bi}_2(\text{SO}_4)_3$	bismuth(III) sulfate
24.	$\text{Pb}(\text{CH}_3\text{COO})_2 \cdot 3\text{H}_2\text{O}$	lead(II) acetate-3-water
25.	$\text{KMnO}_4_{(s)}$	potassium permanganate

Name: _____

Date: _____

REVIEW OF CHEMISTRY 10
NAMING AND WRITING FORMULAS FOR IONIC COMPOUNDS

F10

Complete the following table. (All ionic compounds as pure substances are solids at room temperature. Indicate the state using an (s) subscript.)

	Chemical Formula	Name of Compound	Description and/or Use
1.	ZnO(s)	zinc oxide	protective oxide on zinc metal
2.	NaBr	sodium bromide	present in Epsom salts
3.	NaOH	sodium hydroxide	forms corrosive alkaline solution
4.	AlCl ₃ •6H ₂ O(s)	aluminum chloride hexahydrate	present in antiperspirant
5.	Cu ₂ O	copper(I) oxide	agricultural fungicide
6.	Ca(OH) ₂ (s)	calcium hydroxide	formed by action of water on CaO
7.	Na ₂ CO ₃ •10H ₂ O(s)	sodium carbonate decahydrate	water softener, washing soda
8.	MgSO ₄ •7H ₂ O	magnesium sulfate heptahydrate	active ingredient of Epsom salts
9.	Fe ₂ O ₃ (s)	iron (III) oxide	reddish-brown powder
10.	KCl	potassium chloride	component of fertilizers
11.	ZnS	zinc sulfide	zinc blende (zinc ore)
12.	Na ₃ PO ₄ (s)	sodium phosphate	cleaning agent
13.	NaHCO ₃	sodium hydrogen carbonate	baking soda
14.	NiBr ₂	nickel(II) bromide	forms a green solution
15.	PbO ₂ (s)	lead IV oxide	electrode in car batteries
16.	(NH ₄) ₂ CO ₃	ammonium carbonate	present in some cleaning powders
17.	NaHSO ₄ (s)	sodium bisulphate	aqueous solution strongly acidic
18.	CuCl ₂	cupric chloride	agricultural fungicide
19.	AgNO ₃ (s)	silver I nitrate	making photographic films
20.	KClO ₃	potassium chlorate	lab preparation of oxygen
21.	KMnO ₄ (s)	potassium permanganate	fungicide
22.	(NH ₄) ₂ SO ₄	ammonium sulfate	fertilizer
23.	KNO ₃ (s)	potassium nitrate	preserving meats, gunpowder
24.	NaClO	sodium hypochlorite	laundry bleach
25.	SnF ₂ (s)	tin(II) fluoride	toothpaste additive