

Chem 100

Zewail- Practice Chemical Formulas

Name _____

Last First

Write chemical formulas for the ionic compounds made from each set of ions:

	Name of cation	Name of anion	formula of cation	Formula of anion	Formula of compound	number of ions
1	sodium	chloride	Na ⁺	Cl ⁻		
2	calcium	chloride	Ca ²⁺	Cl ⁻		
3	aluminum	chloride	Al ³⁺	Cl ⁻		
4	calcium	nitrite	Ca ²⁺	NO ₂ ⁻		
5	calcium	sulfate	Ca ²⁺	SO ₄ ²⁻		
6	sodium	phosphate	Na ⁺	PO ₄ ³⁻		
7	potassium	bromide	K ⁺	Br ⁻		
8	calcium	bicarbonate	Ca ²⁺	HCO ₃ ⁻		
9	magnesium	bisulfate	Mg ²⁺	HSO ₄ ⁻		
10	barium	nitrate	Ba ²⁺	NO ₃ ⁻		
11	ammonium	bromide	NH ₄ ⁺	Br ⁻		
12	aluminum	phosphate	Al ³⁺	PO ₄ ³⁻		
13	potassium	phosphate	K ⁺	PO ₄ ³⁻		
14	potassium	sulfate	K ⁺	SO ₄ ²⁻		
15	aluminum	bicarbonate	Al ³⁺	HCO ₃ ⁻		
16	aluminum	bisulfate	Al ³⁺	HSO ₄ ⁻		
17	calcium	hydroxide	Ca ²⁺	OH ⁻		
18	potassium	chlorate	K ⁺	ClO ₃ ⁻		
19	magnesium	chlorate	Mg ²⁺	ClO ₃ ⁻		
20	sodium	nitride	Na ⁺	N ³⁻		
21	sodium	nitrite	Na ⁺	NO ₂ ⁻		
22	sodium	nitrate	Na ⁺	NO ₃ ⁻		
23	lithium	sulfide	Li ⁺	S ²⁻		
24	lithium	sulfite	Li ⁺	SO ₃ ²⁻		
25	lithium	sulfate	Li ⁺	SO ₄ ²⁻		
26	lithium	hydroxide	Li ⁺	OH ⁻		
27	aluminum	hydroxide	Al ³⁺	OH ⁻		

	Name of cation	Name of anion	Formula of cation	formula of anion	formula of compound	number of ions
28	aluminum	carbonate	Al ³⁺	CO ₃ ²⁻		
29	strontium	carbonate	Sr ²⁺	CO ₃ ²⁻		
30	strontium	nitrate	Sr ²⁺	NO ₃ ⁻		
31	strontium	nitrite	Sr ²⁺	NO ₂ ⁻		
32	strontium	nitride	Sr ²⁺	N ³⁻		
33	sodium	acetate	Na ⁺	C ₂ H ₃ O ₂ ⁻		
34	sodium	oxalate	Na ⁺	C ₂ O ₄ ²⁻		
35	barium	oxalate	Ba ²⁺	C ₂ O ₄ ²⁻		
36	aluminum	phosphide	Al ³⁺	P ³⁻		
37	aluminum	phosphate	Al ³⁺	PO ₄ ³⁻		
38	ammonium	iodide	NH ₄ ⁺	I ⁻		
39	ammonium	phosphate	NH ₄ ⁺	PO ₄ ³⁻		
40	ammonium	acetate	NH ₄ ⁺	C ₂ H ₃ O ₂ ⁻		
41	ammonium	oxalate	NH ₄ ⁺	C ₂ O ₄ ²⁻		
42	ammonium	sulfite	NH ₄ ⁺	SO ₃ ²⁻		
43	ammonium	bicarbonate	NH ₄ ⁺	HCO ₃ ⁻		
44	strontium	bisulfate	Sr ²⁺	HSO ₄ ⁻		
45	silver	chloride	Ag ⁺	Cl ⁻		
46	silver	sulfate	Ag ⁺	SO ₄ ²⁻		
47	zinc	bromide	Zn ²⁺	Br ⁻		
48	zinc	phosphate	Zn ²⁺	PO ₄ ³⁻		
49	cobalt (II)	chloride	Co ²⁺	Cl ⁻		
50	cobalt (III)	chloride	Co ³⁺	Cl ⁻		
51	nickel (II)	bromide	Ni ²⁺	Br ⁻		
52	nickel (III)	perchlorate	Ni ³⁺	ClO ₄ ⁻		
53	iron (II)	nitrate	Fe ²⁺	NO ₃ ⁻		
54	copper (I)	carbonate	Cu ⁺	CO ₃ ²⁻		

#2

	Name of cation	Name of anion	Formula of cation	Formula of anion	Formula of compound	number of ions
55	copper (II)	carbonate	Cu^{2+}	CO_3^{2-}		
56	tin (II)	hydroxide	Sn^{2+}	OH^-		
57	tin (IV)	hydroxide	Sn^{4+}	OH^-		
58	gold (I)	bromide	Au^+	Br^-		
59	gold (III)	bromide	Au^{3+}	Br^-		
60	lead (II)	sulfite	Pb^{2+}	SO_3^{2-}		
61	lead (IV)	sulfite	Pb^{4+}	SO_3^{2-}		

Memorize ALL names and formulas of the monoatomic and polyatomic ions listed on pages 15 and 16 in the syllabus.