

Common Ions and Their Charges

Monatomic Cations	Name
H ⁺	hydrogen
Li ⁺	lithium
Na ⁺	sodium
K ⁺	potassium
Rb ⁺	rubidium
Cs ⁺	cesium
Be ²⁺	beryllium
Mg ²⁺	magnesium
Ca ²⁺	calcium
Sr ²⁺	strontium
Ba ²⁺	barium
Al ³⁺	aluminum
Ga ³⁺	gallium
In ³⁺	indium
Ag ⁺	silver (<i>memorize</i>)
Zn ²⁺	zinc (<i>memorize</i>)
Monatomic Cations (multiple oxidation state)	Name (Roman numeral gives the positive charge!)
Fe ³⁺	iron(III)
Fe ²⁺	iron(II)
Cu ²⁺	copper(II)
Cu ⁺	copper(I)
Cr ³⁺	chromium(III)
Ni ²⁺	nickel(II)
Pb ⁴⁺	lead(IV)
Pb ²⁺	lead(II)
Hg ²⁺	mercury(II)

Monatomic Anions	Name
F ⁻	fluoride
Cl ⁻	chloride
Br ⁻	bromide
I ⁻	iodide
O ²⁻	oxide
S ²⁻	sulfide
Se ²⁻	selenide
Te ²⁻	telluride
N ³⁻	nitride
P ³⁻	phosphide
As ³⁻	arsenide
Polyatomic Ions To memorize	Name
NH ₄ ⁺	ammonium
NO ₂ ⁻	nitrite
NO ₃ ⁻	nitrate
SO ₃ ²⁻	sulfite
SO ₄ ²⁻	sulfate
OH ⁻	hydroxide
PO ₄ ³⁻	phosphate
CO ₃ ²⁻	carbonate
ClO ₃ ⁻	chlorate
C ₂ H ₃ O ₂ ⁻	acetate

		TABLE OF POLYATOMIC IONS																																		
1	2	acetate	CH_3COO^-	dihydrogen phosphate	H_2PO_4^-	oxalate	$\text{C}_2\text{O}_4^{2-}$																													
1	H^+ hydrogen	arsenate	AsO_4^{3-}	hydrogen carbonate	HCO_3^-	perchlorate	ClO_4^-																													
3	Li^+ lithium	arsenite	AsO_3^{3-}	hydrogen oxalate	HC_2O_4^-	periodate	IO_4^-																													
4	Be^{2+} beryllium	benzoate	$\text{C}_6\text{H}_5\text{COO}^-$	hydrogen sulfate	HSO_4^-	permanganate	MnO_4^-																													
11	Na^+ sodium	borate	BO_3^{3-}	hydrogen sulfide	HS^-	peroxide	O_2^{2-}																													
12	Mg^{2+} magnesium	bromate	BrO_3^-	hydrogen sulfite	HSO_3^-	phosphate	PO_4^{3-}																													
19	K^+ potassium	carbonate	CO_3^{2-}	hydroxide	OH^-	pyrophosphate	$\text{P}_2\text{O}_7^{4-}$																													
20	Ca^{2+} calcium	chlorate	ClO_3^-	hypochlorite	ClO^-	sulfate	SO_4^{2-}																													
21	Sc^{3+} scandium	chlorite	ClO_2^-	iodate	IO_3^-	sulfite	SO_3^{2-}																													
22	Ti^{4+} titanium (IV)	chromate	CrO_4^{2-}	monohydrogen phosphate	HPO_4^{2-}	thiocyanate	SCN^-																													
23	V^{3+} vanadium (III)	cyanate	CNO^-	nitrate	NO_3^-	thiosulfate	$\text{S}_2\text{O}_3^{2-}$																													
24	Cr^{3+} chromium (III)	cyanide	CN^-	nitrite	NO_2^-	ammonium	NH_4^+																													
25	Mn^{2+} manganese(II)	dichromate	$\text{Cr}_2\text{O}_7^{2-}$	orthosilicate	SiO_4^{4-}	hydronium	H_3O^+																													
3	4	5	6	7	8	9	10	11	12	POSITIVE POLYATOMIC IONS																										
37	Rb^+ rubidium	38	Sr^{2+} strontium	39	Y^{3+} yttrium	40	Nb^{5+} niobium (V)	41	Mo^{6+} molybdenum	42	Tc^{7+} technetium	43	Ru^{3+} ruthenium(III)	44	Rh^{3+} rhodium	45	Pd^{2+} palladium(II)	46	Ag^+ silver	47	Cd^{2+} cadmium	48	In^{3+} indium	49	Sn^{4+} tin (IV)	50	Sb^{3+} antimony(III)	51	Te^{2-} telluride	52	I^- iodide	53	Xe xenon	54		
55	Cs^+ cesium	56	Ba^{2+} barium	57	La^{3+} lanthanum	72	Hf^{4+} hafnium	73	Ta^{5+} tantalum	74	W^{6+} tungsten	75	Re^{7+} rhenium	76	Os^{4+} osmium	77	Ir^{4+} iridium	78	Pt^{4+} platinum(IV)	79	Au^{3+} gold (III)	80	Hg^{2+} mercury (II)	81	Tl^+ thallium (I)	82	Pb^{2+} lead (II)	83	Bi^{3+} bismuth(III)	84	Po^{2+} polonium(II)	85	At^- astatide	86	Ra radon	87
87	Fr^+ francium	88	Ra^{2+} radium	89	Ac^{3+} actinium																															
58	Ce^{3+} cerium	59	Pr^{3+} praseodymium	60	Nd^{3+} neodymium	61	Pm^{3+} promethium	62	Sm^{3+} samarium(III)	63	Eu^{3+} europium (III)	64	Gd^{3+} gadolinium	65	Tb^{3+} terbium	66	Dy^{3+} dysprosium	67	Ho^{3+} holmium	68	Er^{3+} erbium	69	Tm^{3+} thulium	70	Yb^{3+} ytterbium(III)	71	Lu^{3+} lutetium									
90	Th^{4+} thorium	91	Pa^{5+} protactinium(V)	92	U^{6+} uranium (VI)	93	Np^{5+} neptunium	94	Pu^{4+} plutonium(IV)	95	Am^{3+} americium(III)	96	Cm^{3+} curium	97	Bk^{3+} berkelium(III)	98	Cf^{3+} californium	99	Es^{3+} einsteinium	100	Fm^{3+} fermium	101	Md^{2+} mendelevium (II)	102	No^{2+} nobelium(II)	103	Lr^{3+} lawrencium									

PERIODIC TABLE OF IONS

atomic number symbol	26 Fe	KEY ion charge ion name (IUPAC)
	Fe^{3+} Fe^{2+}	iron (III) iron (II)
13	14	15
5	6	7
13	14	15
16	17	18

1	H^- helium	2	He neon
5	B boron	6	C carbon
13	Al^{3+} aluminum	14	Si silicon
16	P^{3-} phosphide	17	S^{2-} sulfide
18	Cl^- chloride		

58	Ce^{3+} cerium	59	Pr^{3+} praseodymium	60	Nd^{3+} neodymium	61	Pm^{3+} promethium	62	Sm^{3+} samarium(III)	63	Eu^{3+} europium (III)	64	Gd^{3+} gadolinium	65	Tb^{3+} terbium	66	Dy^{3+} dysprosium	67	Ho^{3+} holmium	68	Er^{3+} erbium	69	Tm^{3+} thulium	70	Yb^{3+} ytterbium(III)	71	Lu^{3+} lutetium
90	Th^{4+} thorium	91	Pa^{5+} protactinium(V)	92	U^{6+} uranium (VI)	93	Np^{5+} neptunium	94	Pu^{4+} plutonium(IV)	95	Am^{3+} americium(III)	96	Cm^{3+} curium	97	Bk^{3+} berkelium(III)	98	Cf^{3+} californium	99	Es^{3+} einsteinium	100	Fm^{3+} fermium	101	Md^{2+} mendelevium (II)	102	No^{2+} nobelium(II)	103	Lr^{3+} lawrencium