

## Polyatomic Ions

acetate	$\text{CH}_3\text{COO}^{-1}$	dithionate	$\text{S}_2\text{O}_6^{-2}$
acetylide	$\text{C}_2^{-2}$	dithionite	$\text{S}_2\text{O}_4^{-2}$
americyl	$\text{AmO}_2^{+2}$	ethoxide	$\text{CH}_3\text{CH}_2\text{O}^{-1}$
amide	$\text{NH}_2^{-1}$	ethyl	$\text{CH}_3\text{CH}_2^{+1}$
ammonium	$\text{NH}_4^{+1}$	ferricyanide	$\text{Fe}(\text{CN})_6^{-3}$
arsenate	$\text{AsO}_4^{-3}$	ferrocyanide	$\text{Fe}(\text{CN})_6^{-4}$
arsenite	$\text{AsO}_3^{-3}$	formate	$\text{HCOO}^{-1}$
astatate	$\text{AtO}_3^{-1}$	fulminate	$\text{ONC}^{-1}$
azide	$\text{N}_3^{-1}$	fumarate	$\text{OOC}(\text{CH})_2\text{COO}^{-2}$
benzoate	$\text{C}_6\text{H}_5\text{COO}^{-1}$	gallate	$\text{GaO}_3^{-3}$
bicarbonate/hydrogen carbonate	$\text{HCO}_3^{-1}$	germanate	$\text{GeO}_3^{-2}$
binoxalate/hydrogen oxalate	$\text{HOCCOO}^{-1}$	hexafluorosilicate	$\text{SiF}_6^{-2}$
bismuthate	$\text{BiO}_3^{-1}$	hydrogen phosphate	$\text{HPO}_4^{-2}$
bisulfate/hydrogen sulfate	$\text{HSO}_4^{-1}$	hydroxide	$\text{OH}^{-1}$
bisulfite/hydrogen sulfite	$\text{HSO}_3^{-1}$	hypobromite	$\text{BrO}^{-1}$
bitartrate/hydrogen tartrate	$\text{HOOCCH}(\text{OH})\text{CH}(\text{OH})\text{COO}^{-1}$	hypochlorite	$\text{ClO}^{-1}$
borate	$\text{BO}_3^{-3}$	hypoiodite	$\text{IO}^{-1}$
bromate	$\text{BrO}_3^{-1}$	hypophosphite	$\text{PH}_2\text{O}_3^{-1}$
bromite	$\text{BrO}_2^{-1}$	imide	$\text{NH}^{-2}$
butyl	$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2^{+1}$	iodate	$\text{IO}_3^{-1}$
caprylate	$\text{C}_7\text{H}_{15}\text{COO}^{-1}$	iodyl	$\text{IO}_2^{+1}$
carbonate	$\text{CO}_3^{-2}$	isocyanate	$\text{NCO}^{-1}$
carbonyl	$\text{CO}^{+2}$	isopropoxide	$\text{OCH}(\text{CH}_3)_2^{-1}$
chlorate	$\text{ClO}_3^{-1}$	lactate	$\text{CH}_3\text{CH}(\text{OH})\text{COO}^{-1}$
chlorite	$\text{ClO}_2^{-1}$	mandelate	$\text{C}_6\text{H}_5\text{CH}(\text{OH})\text{COO}^{-1}$
chromate	$\text{CrO}_4^{-2}$	mercury(I)	$\text{Hg}_2^{+2}$
chromyl	$\text{CrO}_2^{+2}$	methyl	$\text{CH}_3^{+1}$
citrate	$\text{OOCCH}_2\text{C}(\text{OH})\text{COOCH}_2\text{COO}^{-3}$	molybdate	$\text{MoO}_4^{-2}$
cyanate	$\text{OCN}^{-1}$	neptunyl	$\text{NpO}_2^{+2}$
cyanide	$\text{CN}^{-1}$	nitrate	$\text{NO}_3^{-1}$
dichromate	$\text{Cr}_2\text{O}_7^{-2}$	nitrite	$\text{NO}_2^{-1}$
dihydrogen phosphate	$\text{H}_2\text{PO}_4^{-1}$	nitrosyl	$\text{NO}^{+1}$
		oleate	$\text{CH}_3(\text{CH}_2)_7\text{CHCH}(\text{CH}_2)_7\text{COO}^{-1}$

orthoplumbate	$\text{PbO}_4^{-4}$	salicylate	$\text{C}_6\text{H}_4(\text{OH})\text{COO}^{-1}$
orthosilicate	$\text{SiO}_4^{-4}$	selenate	$\text{SeO}_4^{-2}$
orthotellurate	$\text{TeO}_6^{-5}$	seleninyl	$\text{SeO}^{+2}$
oxalate	$\text{OOC}\text{COO}^{-2}$	selenite	$\text{SeO}_3^{-2}$
ozonide	$\text{O}_3^{-1}$	selenocyanate	$\text{SeCN}^{-1}$
palmitate	$\text{CH}_3(\text{CH}_2)_{14}\text{COO}^{-1}$	selenonyl	$\text{SeO}_2^{+2}$
paramolybdate	$\text{Mo}_7\text{O}_{24}^{-6}$	silicate	$\text{SiO}_3^{-2}$
perbromate	$\text{BrO}_4^{-1}$	stannate	$\text{SnO}_3^{-2}$
perchlorate	$\text{ClO}_4^{-1}$	stearate	$\text{CH}_3(\text{CH}_2)_{16}\text{COO}^{-1}$
periodate	$\text{IO}_4^{-1}$	sulfamate	$\text{NH}_2\text{SO}_3^{-1}$
permanganate	$\text{MnO}_4^{-1}$	sulfate	$\text{SO}_4^{-2}$
peroxide	$\text{O}_2^{-2}$	sulfinyl	$\text{SO}^{+2}$
peroxydisulfate	$\text{S}_2\text{O}_8^{-2}$	sulfite	$\text{SO}_3^{-2}$
perrhenate	$\text{ReO}_4^{-1}$	sulfonyl	$\text{SO}_2^{+2}$
pertechnetate	$\text{TcO}_4^{-1}$	superoxide	$\text{O}_2^{-1}$
perxenate	$\text{XeO}_6^{-4}$	tartrate	$\text{OOCCH}(\text{OH})\text{CH}(\text{OH})\text{COO}^{-2}$
phosphate	$\text{PO}_4^{-3}$	tellurate	$\text{TeO}_4^{-2}$
phosphite	$\text{PO}_3^{-3}$	tellurocyanate	$\text{TeCN}^{-1}$
phosphonium	$\text{PH}_4^{+1}$	thiocarbonyl	$\text{CS}^{+2}$
phosphoryl	$\text{PO}^{+1}$	thiocyanate	$\text{SCN}^{-1}$
phthalate	$\text{OOC}\text{C}_6\text{H}_4\text{COO}^{-2}$	thionitrosyl	$\text{NS}^{+1}$
plumbite	$\text{PbO}_2^{-2}$	thiophosphoryl	$\text{PS}^{+1}$
plutoryl	$\text{PuO}_2^{+2}$	thiosulfate	$\text{S}_2\text{O}_3^{-2}$
propionate	$\text{CH}_3\text{CH}_2\text{COO}^{-1}$	tripolyphosphate	$\text{P}_3\text{O}_{10}^{-5}$
propyl	$\text{CH}_3\text{CH}_2\text{CH}_2^{+1}$	tungstate	$\text{WO}_4^{-2}$
pyrophosphate	$\text{P}_2\text{O}_7^{-4}$	uranyl	$\text{UO}^{+2}$
pyruvate	$\text{CH}_3\text{COCOO}^{-1}$	vanadate	$\text{VO}_3^{-1}$
rhenate	$\text{ReO}_4^{-2}$	vanadyl	$\text{VO}^{+1}$

## Polyatomic Ion Relationships

- The prefix **thio-** indicates an oxygen has been replaced by a sulfur (see sulfate and thiosulfate).
- The prefix **bi-** or **hydrogen** indicates that a hydrogen ion is added to the ion. Its charge is increased by one (see carbonate and bicarbonate).
- The suffix **-ate** has one more oxygen than the suffix **-ite** (see nitrate and nitrite).
- Furthermore, the prefix **per-** adds an extra oxygen and the prefix **hypo-** removes an oxygen (see perchlorate, chlorate, chlorite, and hypochlorite).