

Name	Symbol	Charge
ammonium	NH_4	+1
acetate	$\text{C}_2\text{H}_3\text{O}_2$	-1
bromate	BrO_3	-1
chlorate	ClO_3	-1
chlorite	ClO_2	-1
cyanide	CN	-1
dihydrogen phosphate	H_2PO_4	-1
hypochlorite	ClO	-1
hydrogencarbonate(bicarbonate)	HCO_3	-1
hydrogen sulfate (bisulfate)	HSO_4	-1
hydrogen sulfite (bisulfite)	HSO_3	-1
hydroxide	OH	-1
iodate	IO_3	-1
nitrate	NO_3	-1
nitrite	NO_2	-1
perchlorate	ClO_4	-1
permanganate	MnO_4	-1
thiocyanate	SCN	-1
carbonate	CO_3	-2
chromate	CrO_4	-2
dichromate	Cr_2O_7	-2
oxalate	C_2O_4	-2
selenate	SeO_4	-2
silicate	SiO_3	-2
sulfate	SO_4	-2
sulfite	SO_3	-2
phosphate	PO_4	-3
phosphite	PO_3	-3
Peroxide	O_2	-2

Solubility Rules

- All compounds containing alkali metal cations and the ammonium ion are SOLUBLE.
- All compounds containing NO_3^- , ClO_4^- , ClO_3^- , and $\text{C}_2\text{H}_3\text{O}_2^-$ anions are SOLUBLE.
- All chlorides, bromides, and iodides are SOLUBLE except those containing Ag^+ , Pb^{2+} , or Hg_2^{2+} .
- All sulfates are SOLUBLE except those containing Hg_2^{2+} , Pb^{2+} , Sr^{2+} , Ca^{2+} , or Ba^{2+} .
- All hydroxides are INSOLUBLE except compounds of the alkali metals, Ca^{2+} , Sr^{2+} , and Ba^{2+} .
- All compounds containing PO_4^{3-} , S^{2-} , CO_3^{2-} , and SO_3^{2-} ions are INSOLUBLE except those that also contain alkali metals or NH_4^+ .

Strong Acids

Hydrochloric Acid, HCl

Hydrobromic Acid, HBr

Hydroiodic Acid, HI

Chloric Acid, HClO_3

Perchloric Acid, HClO_4

Nitric Acid, HNO_3

Sulfuric Acid, H_2SO_4

Strong Bases

Group 1 metal hydroxides (LiOH, NaOH, KOH, RbOH, CsOH)

Heavy group 2 metal hydroxides ($\text{Ca}(\text{OH})_2$, $\text{Sr}(\text{OH})_2$, $\text{Ba}(\text{OH})_2$)

You have chosen to take AP Chemistry next year. The above information is the material you need to know for the first day back to school. You need to memorize the polyatomic ions, all the solubility rules and the strong acids and bases. You will be given a test on the second day of school based on this information. I hope you have a great summer and I look forward to working with you next year.