

# COMMON CATIONS

Monatomic cations take the name of their element.

## 1+

H <sup>+</sup>	Hydrogen
Li <sup>+</sup>	Lithium
Na <sup>+</sup>	Sodium
K <sup>+</sup>	Potassium
Rb <sup>+</sup>	Rubidium
Cs <sup>+</sup>	Cesium
Cu <sup>+</sup>	Copper (I) <u>green</u> ; hyd.
Ag <sup>+</sup>	Silver
Au <sup>+</sup>	Gold (I)
NH <sub>4</sub> <sup>+</sup>	Ammonium *

## 2+

Be <sup>2+</sup>	Beryllium
Mg <sup>2+</sup>	Magnesium
Ca <sup>2+</sup>	Calcium
Sr <sup>2+</sup>	Strontium
Ba <sup>2+</sup>	Barium
Cr <sup>2+</sup>	Chromium (II)
Mn <sup>2+</sup>	Manganese (II) <u>pink</u> salts
Fe <sup>2+</sup>	Iron (II) <u>blue</u> ; hyd.
Co <sup>2+</sup>	Cobalt (II) <u>blue</u> ; anhyd./ <u>pink</u> hyd.
Ni <sup>2+</sup>	Nickel (II) <u>yellow</u> ; anhyd./ <u>blue</u> ; hyd.
Cu <sup>2+</sup>	Copper (II) <u>blue</u> or <u>green</u> hyd.
Zn <sup>2+</sup>	Zinc
Cd <sup>2+</sup>	Cadmium
Sn <sup>2+</sup>	Tin (II)
Hg <sup>2+</sup>	Mercury (II)
Hg <sub>2</sub> <sup>2+</sup>	Mercury (I) *
Pb <sup>2+</sup>	Lead (II)

## 3+

B <sup>3+</sup>	Boron
Al <sup>3+</sup>	Aluminum
Ga <sup>3+</sup>	Gallium
Cr <sup>3+</sup>	Chromium (III) <u>green</u> ; hyd.
Fe <sup>3+</sup>	Iron (III)
Co <sup>3+</sup>	Cobalt (III) <u>red</u> ; hyd.
Ni <sup>3+</sup>	Nickel (III)
Au <sup>3+</sup>	Gold (III)
Sb <sup>3+</sup>	Antimony (III)
Bi <sup>3+</sup>	Bismuth (III)
Mn <sup>3+</sup>	Manganese (III)

## 4+

Sn <sup>4+</sup>	Tin (IV)
Pb <sup>4+</sup>	Lead (IV)
Mn <sup>4+</sup>	Manganese (IV)

## 5+

Sb <sup>5+</sup>	Antimony (V)
Bi <sup>5+</sup>	Bismuth (V)

\* Polyatomic Cation

hyd. = hydrated ions (i.e., in solution)

anhyd. = anhydrous (i.e., not in solution)

# SELECT ANIONS

Monatomic anions take the suffix **-ide**.

## 1-

$F^-$	Fluoride
$Cl^-$	Chloride
$Br^-$	Bromide
$I^-$	Iodide
$H^-$	Hydride

## 2-

$O^{2-}$	Oxide
$S^{2-}$	Sulfide
$Se^{2-}$	Selenide
$Te^{2-}$	Telluride

## 3-

$N^{3-}$	Nitride
$P^{3-}$	Phosphide
$As^{3-}$	Arsenide

## 4-

$C^{4-}$	Carbide
----------	---------

Most polyatomic anions have **-ate** or **-ite** suffixes

## 1-

$ClO_3^-$	Chlorate
$ClO_2^-$	Chlorite
$ClO^-$	Hypochlorite
$ClO_4^-$	Perchlorate
$BrO_3^-$	Bromate
$BrO_2^-$	Bromite
$BrO^-$	Hypobromite
$BrO_4^-$	Perbromate
$IO_3^-$	Iodate
$IO_2^-$	Iodite
$IO^-$	Hypoiodite
$IO_4^-$	Periodate
$N_3^-$	Azide
$NO_3^-$	Nitrate
$NO_2^-$	Nitrite
$H_2PO_4^-$	Dihydrogen phosphate
$HCO_3^-$	Hydrogen carbonate or bicarbonate
$HSO_4^-$	Hydrogen sulfate or bisulfate
$HSO_3^-$	Hydrogen sulfite or bisulfite
$HS^-$	Hydrogen sulfide or bisulfide
$SCN^-$	Thiocyanate
$CN^-$	Cyanide
$MnO_4^-$	Permanganate <b>purple</b>
$C_2H_3O_2^-$	Acetate
$OH^-$	Hydroxide

## 2-

$SO_4^{2-}$	Sulfate
$SO_3^{2-}$	Sulfite
$SeO_4^{2-}$	Selenate
$SeO_3^{2-}$	Selenite
$HPO_4^{2-}$	Monohydrogen phosphate
$CO_3^{2-}$	Carbonate
$S_2O_3^{2-}$	Thiosulfate
$CrO_4^{2-}$	Chromate <b>yellow</b>
$Cr_2O_7^{2-}$	Dichromate <b>orange</b>
$C_2O_4^{2-}$	Oxalate
$O_2^{2-}$	Peroxide
$C_4H_4O_6^{2-}$	Tartrate
$SiO_3^{2-}$	Silicate

## 3-

$PO_4^{3-}$	Phosphate
$PO_3^{3-}$	Phosphite
$AsO_4^{3-}$	Arsenate
$AsO_3^{3-}$	Arsenite
$C_6H_5O_7^{3-}$	Citrate
$Fe(CN)_6^{3-}$	Ferricyanide <b>red</b>
$BO_3^{3-}$	Borate

## 4-

$Fe(CN)_6^{4-}$	Ferrocyanide <b>yellow</b>
-----------------	----------------------------

