

Monatomic Anion Names

The monatomic anions are named by adding *-ide* to the root of the name of the nonmetal that forms the anion. For example, N^{3-} is the nitride ion. The names of the anions are below .

- hydride ion, H^-
- nitride ion, N^{3-}
- phosphide ion, P^{3-}
- oxide ion, O^{2-}
- sulfide ion, S^{2-}
- selenide ion, Se^{2-}
- fluoride ion, F^-
- chloride ion, Cl^-
- bromide ion, Br^-
- iodide ion, I^-

Polyatomic Anion Names

There are many polyatomic anions. The following anions are most common.

- hydroxide ion, OH^-
- nitrate ion, NO_3^-
- carbonate ion, CO_3^{2-}
- sulfate ion, SO_4^{2-}
- phosphate ion, PO_4^{3-}
- acetate ion, $\text{C}_2\text{H}_3\text{O}_2^-$

Some polyatomic anions are formed by the attachment of one or more hydrogen atoms. In fact, it is common for hydrogen atoms to be transferred from one ion or molecule to another ion or molecule. When this happens, the hydrogen atom is usually transferred without its electron, as H^+ . If an anion has a charge of -2 or -3 , it can gain one or two H^+ ions and still retain a negative charge. For example, carbonate, CO_3^{2-} , can gain an H^+ ion to form HCO_3^- , which is found in baking soda. The sulfide ion, S^{2-} , can gain one H^+ ion to form HS^- . Phosphate, PO_4^{3-} , can gain one H^+ ion and form HPO_4^{2-} , or it can gain two H^+ ions to form H_2PO_4^- . These polyatomic ions are named with the word *hydrogen* in front of the name of the anion if there is one H^+ ion attached and *dihydrogen* in front of the name of the anion if two H^+ ions are attached.

- HCO_3^- is hydrogen carbonate ion.
- HS^- is hydrogen sulfide ion.
- HPO_4^{2-} is hydrogen phosphate ion.
- H_2PO_4^- is dihydrogen phosphate ion.

Some polyatomic ions also have nonsystematic names that are often used. For example, HCO_3^- is often called bicarbonate instead of hydrogen carbonate. You should avoid using this less accepted name, but because many people still use it, you should know it.