TABLE 2 *Some Polyatomic Ions*

1+		2+			
ammonium	NH_4^+	dimercury*	Hg_2^{2+}		

1–		2–		3–	
acetate	CH_3COO^-	carbonate	CO_3^{2-}	arsenate	AsO_4^{3-}
bromate	BrO_3^-	chromate	CrO_4^{2-}	phosphate	PO_4^{3-}
chlorate	ClO_3^-	dichromate	$Cr_2O_7^{2-}$		
chlorite	ClO_2^-	hydrogen phosphate	HPO_4^{2-}		
cyanide	CN^-	oxalate	$C_2O_4^{2-}$		
dihydrogen phosphate	$H_2PO_4^-$	peroxide	O_2^{2-}		
hydrogen carbonate (bicarbonate)	HCO_3^-	sulfate	SO_4^{2-}		
hydrogen sulfate	HSO_4^-	sulfite	SO_3^{2-}		
hydroxide	OH^-				
hypochlorite	ClO^-				
nitrate	NO_3^-				
nitrite	NO_2^-				
perchlorate	ClO_4^-				
permanganate	MnO_4^-				

*The mercury(I) cation exists as two Hg^+ ions joined together by a covalent bond and is written as Hg_2^{2+}.

has is given the prefix *hypo-*. An anion that has one more oxygen atom than the *-ate* anion has is given the prefix *per-*. This nomenclature is illustrated by the four oxyanions formed by chlorine.

ClO^-	ClO_2^-	ClO_3^-	ClO_4^-
hypochlorite	chlorite	chlorate	perchlorate

Compounds containing polyatomic ions are named in the same manner as binary ionic compounds. The name of the cation is given first, followed by the name of the anion. For example, the two compounds formed with silver by the nitrate and nitrite anions are named *silver nitrate,* $AgNO_3$, and *silver nitrite,* $AgNO_2$, respectively. When multiples of a polyatomic ion are present in a compound, the formula for the polyatomic ion is enclosed in parentheses, as shown on page 220 for aluminum sulfate, $Al_2(SO_4)_3$. The formula indicates that an aluminum sulfate formula unit has two aluminum cations and three sulfate anions.