

TABLE 2.4 • Common Cations*

| Charge | Formula | Name | Formula | Name |
|--------|------------------------|----------------------|-----------------------------------|------------------------------------|
| 1+ | H⁺ | hydrogen ion | NH₄⁺ | ammonium ion |
| | Li ⁺ | lithium ion | Cu ⁺ | copper(I) or cuprous ion |
| | Na⁺ | sodium ion | | |
| | K⁺ | potassium ion | | |
| | Cs ⁺ | cesium ion | | |
| | Ag⁺ | silver ion | | |
| 2+ | Mg²⁺ | magnesium ion | Co ²⁺ | cobalt(II) or cobaltous ion |
| | Ca²⁺ | calcium ion | Cu²⁺ | copper(II) or cupric ion |
| | Sr ²⁺ | strontium ion | Fe²⁺ | iron(II) or ferrous ion |
| | Ba ²⁺ | barium ion | Mn ²⁺ | manganese(II) or manganous ion |
| | Zn²⁺ | zinc ion | Hg ₂ ²⁺ | mercury(I) or mercurous ion |
| | Cd ²⁺ | cadmium ion | Hg²⁺ | mercury(II) or mercuric ion |
| | | | Ni ²⁺ | nickel(II) or nickelous ion |
| | | | Pb²⁺ | lead(II) or plumbous ion |
| | | Sn ²⁺ | tin(II) or stannous ion | |
| 3+ | Al³⁺ | aluminum ion | Cr ³⁺ | chromium(III) or chromic ion |
| | | | Fe³⁺ | iron(III) or ferric ion |

*The ions we use most often in this course are in boldface. Learn them first.

TABLE 2.5 • Common Anions*

| Charge | Formula | Name | Formula | Name |
|--------|------------------------------|----------------------|---|------------------------|
| 1- | H ⁻ | hydride ion | CH₃COO⁻ (or C ₂ H ₃ O ₂ ⁻) | acetate ion |
| | F⁻ | fluoride ion | ClO ₃ ⁻ | chlorate ion |
| | Cl⁻ | chloride ion | ClO₄⁻ | perchlorate ion |
| | Br⁻ | bromide ion | NO₃⁻ | nitrate ion |
| | I⁻ | iodide ion | MnO ₄ ⁻ | permanganate ion |
| | CN ⁻ | cyanide ion | | |
| | OH⁻ | hydroxide ion | | |
| 2- | O²⁻ | oxide ion | CO₃²⁻ | carbonate ion |
| | O ₂ ²⁻ | peroxide ion | CrO ₄ ²⁻ | chromate ion |
| | S²⁻ | sulfide ion | Cr ₂ O ₇ ²⁻ | dichromate ion |
| | | | SO₄²⁻ | sulfate ion |
| 3- | N ³⁻ | nitride ion | PO₄³⁻ | phosphate ion |

*The ions we use most often are in boldface. Learn them first.

| Ion | K^+ | NH_4^+ | Mg^{2+} | Fe^{3+} |
|-------------|-------|----------|-----------|-----------|
| Cl^- | KCl | | | |
| OH^- | | | | |
| CO_3^{2-} | | | | |
| PO_4^{3-} | | | | |

| Cation | Anion | Formula | Name |
|------------------|--------------------|------------------------------|--------------------|
| | | | Lithium oxide |
| Fe^{2+} | PO_4^{3-} | | |
| | | $\text{Al}_2(\text{SO}_4)_3$ | |
| | | | Copper(II) nitrate |
| Cr^{3+} | I^- | | |
| | | MnClO_2 | |
| | | | Ammonium carbonate |
| | | | Zinc perchlorate |