

Oxidation numbers (charges) of some common elements.

| +1 | +2 | | +3 | -3 | -2 | -1 |
|-----------------|------------------|------------------|------------------|-----------------------------|---------------------------|----------------------------|
| H ⁺ | Mg ⁺² | Ca ⁺² | Al ⁺³ | N ⁻³ (nitride) | O ⁻² (oxide) | F ⁻ (fluoride) |
| Na ⁺ | Sr ⁺² | Ba ⁺² | Fe ⁺³ | P ⁻³ (phosphide) | S ⁻² (sulfide) | Cl ⁻ (chloride) |
| K ⁺ | Zn ⁺² | Fe ⁺² | Cr ⁺³ | | | Br ⁻ (bromide) |
| Ag ⁺ | Mn ⁺² | Ni ⁺² | Co ⁺³ | | | I ⁻ (iodide) |
| Cu ⁺ | Cu ⁺² | Cd ⁺² | | | | |
| Hg ⁺ | Pb ⁺² | Hg ⁺² | | | | |

Some important polyatomic ions with their names and oxidation numbers (charges).

| +1 | -3 | -2 | -1 |
|---|---|---|--|
| NH ₄ ⁺ Ammonium | PO ₄ ⁻³ Phosphate | SO ₄ ⁻² Sulfate | OH ⁻ Hydroxide |
| H ₃ O ⁺ Hydronium | PO ₃ ⁻³ Phosphite | SO ₃ ⁻² Sulfite | NO ₃ ⁻ Nitrate |
| | | CO ₃ ⁻² Carbonate | NO ₂ ⁻ Nitrite |
| | | CrO ₄ ⁻² Chromate | MnO ₄ ⁻ Permanganate |
| | | Cr ₂ O ₇ ⁻² Dichromate | CN ⁻ Cyanide |
| | | C ₂ O ₄ ⁻² Oxalate | CH ₃ COO ⁻ Acetate |
| | | MnO ₄ ⁻² Manganate | ClO ₄ ⁻ Perchlorate |
| | | | ClO ₃ ⁻ Chlorate |
| | | | ClO ₂ ⁻ Chlorite |
| | | | ClO ⁻ Hypochlorite |

Additionally, in general,

- 1A group elements have always +1 charge, Li⁺, Na⁺, K⁺,
- 2A group elements have always +2 charge, Be⁺², Mg⁺², Ca⁺², Sr⁺², Ba⁺²
- Al⁺³ has always +3 in all compounds
- Hydrogen +1 (with nonmetals) H⁺¹Cl⁻¹, -1 (with metals) K⁺¹H⁻¹
- Fluorine is the strongest (the most active) nonmetal. So, its charge is always -1
- Oxygen has generally -2 oxidation number. in water H₂O H⁺¹O⁻² but
In peroxide it takes -1 oxidation number or O₂⁻² Na₂O₂ or Na⁺¹ O₂⁻²
In OF₂ oxygen takes +2 oxidation number O⁺²F⁻¹
- Nonmetals have generally one negative oxidation number but they have more than one positive oxidation numbers (except F)
Cl, Br, I : -1, +1, +3, +5, +7
S : -2, +4, +6 N : -3, +1, +2, +3, +4, +5
- Some metals have different oxidation numbers
Cu : +1, +2 Fe : +2, +3 Pb : +2, +4 Mn : +2, +4, +6, +7
- The oxidation number of a monoatomic ion is equal to the charge of this ion.
- The sum of the oxidation numbers for all elements in a compound is zero.