

More with polyatomic ions (PAIs)

Prefix or suffix	Number of oxygens	Example PAI	Example compound
__ate	original, from list	chlorate	chloric acid
per__ate	original +1	perchlorate	sodium perchlorate
__ite	original -1	chlorite	calcium chlorite
hypo__ite	original -2	hypochlorite	hypochlorous acid

Acids: H + Red

(Hydrogen + Nonmetal or Polyatomic ion)

Hydrogen + NM

Hydrobromic acid, HBr

Hydrogen + PAI

Sulfuric acid, H₂SO₄

hydrogen __ate → __ic acid

hydrogen __ite → __ous acid

hydrogen __ide → hydro__ic acid

(Special ionic bonding)

Examples of naming rules and categories

Category 1: Blue + Red

(Representative metal or Ammonium + Nonmetal or Polyatomic ion)

Rep. M + NM

Lithium oxide, Li₂O

Rep. M⁺ + PAI

Calcium hydroxide, Ca(OH)₂

NH₄⁺ + NM

Ammonium chloride, NH₄Cl

NH₄⁺ + PAI

Ammonium phosphate, (NH₄)₃PO₄

(Ionic bonding)

Category 2: Green + Red

(Transition metal + Nonmetal or Polyatomic ion)

Trans. M + NM

Copper (II) sulfide, CuS

Trans. M + PAI

Iron (III) chlorate, Fe(ClO₃)₃

1	I
2	II
3	III
4	IV
5	V

(Ionic bonding)

Category 3: Red + Red

(Nonmetal + Nonmetal)

NM + NM

Trinitrogen difluoride, N₃F₂

Disilicon monosulfide, Si₂S

Carbon monoxide, CO

1	mono	6	hexa
2	di	7	hepta
3	tri	8	octa
4	tetra	9	nona
5	penta	10	deca

(Covalent bonding)