

NOMENCLATURE SUMMARY

Naming Compounds

A. Two Elements

(BINARY Compounds)

1. Name each element
2. The 2nd element ends in "ide"

eg. CaS

calcium sulphide

* if the 1st element is multivalent:

a) Stock System (Roman Numerals) → I, II, III, IV, V, VI, VII, VIII

eg. Fe₂S₃

iron(II) sulphide

b) ous - lower valence
ic - higher valence

eg. CuF

cuprous fluoride

eg. CuF₂

cupric fluoride

c) Prefix → mono, di, tri, tetra, penta, hexa, ...

eg. N₂O₄

dinitrogen tetroxide

* if the 1st element is an H and the compound is (aq), it's an acid

- starts with hydro

- ends with ic

eg. HF_(aq)

hydrofluoric acid

* Peroxides - have one more than the usual number of oxygens

eg. H₂O₂ → hydrogen peroxide

B. Three Elements

1. Name the 1st element
2. The rest is a polyatomic ion

Eg. NO₃⁻ nitrate

1 more O than 'ate' - per nitrate

1 less O than 'ate' - nitrous

2 less O than 'ate' - hypo nitrous

* keep in mind if the 1st element is multivalent

eg. Ba(ClO₄)₂

barium perchlorate

eg. Cu(NO₂)₂

copper(II) nitrite

* if the 1st element is an H, it's an acid

- ic - from 'ate' polyatomic ions

- ous - from 'ite' polyatomic ions

peric → from 'perate'
hypoous → from 'hypoite'

eg. H₂SO₄ (aq)

sulphuric acid

eg. HClO (aq)

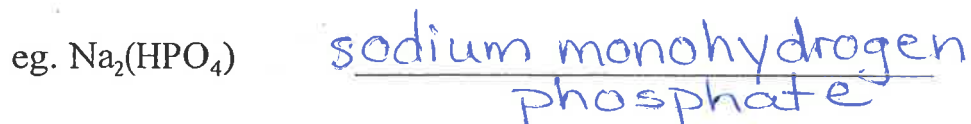
hypochlorous acid

eg. H₂SO₂ (aq)

hyposulfurous acid

C. Four Elements (Acid Salts)

1. Name the 1st element
2. The 2nd element is hydrogen
3. The rest is a polyatomic ion



* keep in mind if the 1st element is multivalent

D. End With H_2O

1. Name the compound
2. Place the numerical prefix before "hydrate"



Writing Formulas

* Break the compound down, keeping in mind:

** criss-cross valences **

A. If it ends in -ide \rightarrow 2 elements



\rightarrow 3 elements if OH, CN



-ate, -ite \rightarrow 3 elements



B. Acids - H goes in front [(aq) follows]

- hydro...ic \rightarrow 2 elements



- ...ic \rightarrow 3 elements

