

writing Chemical Formulas Is ACID in the name?

No:

Is there a metal?

No ✓

It's a covalent compound.does it have the prefix hydro-? Ks

No ✓

Yes

Are there Roman numerals in the name (transition metals)?

No ✓

It's a regular ionic compound.It's a transition metal ionic compound.

does name end in -ic or -ous acid?

1) write H¹⁺
2) write symbol : charge of negative anion
3) criss-cross charges

- 1) write symbol for 1st element.
2) change prefix to a subscript.
3) Repeat for the 2nd element.

- 1) write symbol & charge of metal cation
2) write symbol & charge of nonmetal anion
3) criss-cross charges, use parentheses if necessary

H₂O

Ex) tetraphosphorous decoxide

Ex) magnesium nitrate

P₄O₁₀mg²⁺ NO₃⁻mg(NO₃)₂

does name end in -ic or -ous acid?

1) write H¹⁺
2) write symbol : charge of the poly. ion ending in -ate.
3) criss-cross charges

Ex) hydrofluoric acid HF

Ex) hydrocyanic acid HCN

Ex) lead (IV) phosphate Pb⁴⁺ PO₄³⁻
H¹⁺ CN⁻

-ous ✓

-ous

-ite.

Ex) chlorous acid HClO₂Ex) copper (II) nitride Cu²⁺ N³⁻Cu₃N₂Ex) calcium chloride Ca²⁺ Cl⁻CaCl₂Ex) lead (III) phosphate Pb₃(PO₄)₄HClO₂

Writing Names for Chemical Formulas

Is "H" the 1st letter in the formula?

NO

Is there a metal in formula?

NO

It's a covalent compound

NO

Is it a transition metal?

NO

It's a binary acid

Yes

Does the poly. ion's name end in -ate or -ite?

1) write name of 1st element, change subscript to a prefix.

2) Repeat for the 2nd element, change ending to -ide

Ex) Li₃P
lithium Phosphide

Ex) N₂S₅
dinitrogen Pentasulfide

Ex) FeS₂
 $+2 + -2 = 0$

Ex) Sn(CO₃)₂
 $(x) + 2(-2) = 0$
 $x = +4$

1) write the prefix hydro-
2) write 2nd element's name, change name, change ending to -ic acid

-ate

Ex) HNO₃
nitrate \Rightarrow nitric acid

1) change -ite to -ous acid

Ex) HNO₂
nitrite \Rightarrow nitrous acid

Ex) H₃PO₃
phosphite
phosphorous acid

Ex) HCl
hydrochloric acid

Ex) Sn^{IV} carbonate