

PROPERTIES OF IONIC COMPOUNDS

1. Most ionic compounds are crystalline solids at room temperature.
2. Ionic compounds generally have high melting and boiling points.
3. Under pressure ionic crystals will shatter or cleave.
4. Ionic compounds can conduct an electric current (are electrolytes) in their molten (liquid) state and also in their aqueous (when dissolved in water) state.

Binary IONIC COMPOUNDS

-made of metal and non metal.

Name the metal.

Name the non metal change ending
to -ide.

ex/

NaCl sodium chloride

CaCl₂ calcium chloride

Polyatomic IONIC COMPOUNDS

-made of metal(or NH_4^+) and polyatomic ion.

Name metal (or NH_4^+)

Name polyatomic ion, no change to ending.

ex/ CaSO_4

calcium
sulfate

$(\text{NH}_4)_3\text{PO}_4$

ammonium
phosphate

MULTIVALENT METALS

Determine the charge on the cation by using the information in the balanced compound about the anion.

Include the charge as a roman numeral in the name.

ex/



HYDRATES

these are ionic compounds with loosely bound water molecules.

ex $\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$.

- 1) name the ionic compound.
- 2) use the appropriate prefix to indicate number of water molecules end in -hydrate.

PREFIXES

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

Writing chemical formulas

Balance the charges of the ions!

calcium bromide

silver acetate

copper (I) oxide

calcium chloride dihydrate