REPRESENTATIVE PARTICLES

What are they?

Representative particles are the smallest particle of a substance (compound or element) which retains the properties of that substance.

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There are 3 types of representative particles:

1) ATOMS

Atoms are the representative particles of elements.

An atom is the smallest particle of an element which retains the properties of that element.

Examples: Fe C He P Ni

NOTE: An element is not yet bonded to any other element!

2) MOLECULES

Molecules are the representative particles of covalent/molecular compounds.

A molecule is the smallest particle of a covalent/molecular compound which retains the properties of that compound.

Examples: H_2O $C_{12}H_{22}O_{11}$ CO_2 H_2

NOTE: All of the elements in a covalent compound are non metals!!!

3) FORMULA UNITS

Formula Units are the representative particles of ionic compounds.

A formula unit is the smallest particle of an ionic compound which retains the properties of that compound.

Examples: NaCl $Ca(NO_3)_2$ FeO $Cr_2(SO_4)_3$

NOTE: An ionic compound always contains a metal bonded to a non-metal(s)!