

A LEVEL CHEMISTRY - SOME DEFINITIONS TO LEARN

ISOTOPE

Atoms with ... the same atomic number but different mass number or the same number of protons but different numbers of neutrons

ATOMIC NUMBER

The number of protons in the nucleus of an atom

MASS NUMBER

The sum of the protons and neutrons in the nucleus of an atom

RELATIVE ATOMIC MASS

The mass of an atom relative to that of the carbon 12 isotope having a value of 12.000

EMPIRICAL FORMULA

The simplest, whole number, ratio of elements in a compound

MOLECULAR FORMULA

The exact number of atoms of each element in the formula of a compound

IONIC BOND

Oppositely charged ions held together in a crystal lattice by electrostatic attraction

COVALENT BOND

A shared pair of electrons, one electron being supplied by each atom either side of the bond

DATIVE COVALENT (CO-ORDINATE) BOND

A shared pair of electrons, both electrons being supplied by one atom in the bond

ELECTRONEGATIVITY

The ability of an atom to attract the pair of electrons in a covalent bond to itself

MACRO (GIANT) MOLECULE

Many atoms joined together in a regular array by a large number of covalent bonds

POLAR BOND

A covalent bond where the shared pair of electrons is displaced to one end

FAJAN'S RULES

A compound is more likely to be covalent if the ... cation has a small size and a high charge
anion has a large size and a high charge

FIRST IONISATION ENERGY

The energy required to remove one mole of electrons (to infinity) from one mole of gaseous atoms to form one mole of gaseous positive ions.

ELECTRON AFFINITY

The enthalpy change when one mole of gaseous atoms acquires one mole of electrons (from infinity) to form one mole of gaseous negative ions.

STANDARD ENTHALPY OF FORMATION

The enthalpy change when one mole of a compound is formed in its standard state from its elements in their standard states

STANDARD ENTHALPY OF COMBUSTION

The enthalpy change when one mole of a substance undergoes complete combustion in its standard state

BOND (DISSOCIATION) ENTHALPY

The energy required to break one mole of gaseous bonds to form gaseous atoms

STANDARD ENTHALPY OF ATOMISATION

The enthalpy change when ONE MOLE of gaseous atoms is formed from an element in its standard state

ENTHALPY OF FORMATION

The enthalpy change when one mole of a compound is formed in its standard state from its elements in their standard states

LATTICE DISSOCIATION ENTHALPY

The enthalpy change when ONE MOLE of an ionic lattice dissociates into isolated gaseous ions

LATTICE FORMATION ENTHALPY

The enthalpy change when ONE MOLE of an ionic lattice dissociates is formed from its isolated gaseous ions

ENTHALPY OF HYDRATION

The enthalpy change when ONE MOLE of gaseous ions dissolves in (an excess of) water

ENTHALPY OF HYDROGENATION

The enthalpy change when ONE MOLE of double bonds is reduced to single bonds by reacting with gaseous hydrogen.

HESS'S LAW

The enthalpy change of a reaction is independent of the path taken