The oxidation number or oxidation state of an atom in a molecule or a polyatomic ion is the charge it would bear if all its bonds to unlike atoms were ionic bonds.

eg. 1: Methane

There are no bonds connecting like atoms in the methane molecule.

electronegativity: C > H

eg. 2: Acetaldehyde

There is one bond connecting like atoms in the acetaldehyde molecule, the carbon-carbon bond.

electronegativity: O > C > H

eg. 3: Nitric acid

There are no bonds connecting like atoms in the nitric acid molecule.

electronegativity: O > N > H
eg. 4: Periodate ion

There are no bonds connecting like atoms in the periodate ion.
electronegativity: O > I

see also oxidation, reduction

Contributors

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