Chimica

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Chapter 1

Introduction

Chemistry studies the properties, the structure and the transformations of matter: it is a global science.

The structure comes from the "lattice": example, graphite vs. diamond.

Physical states of matter (everything which has mass and occupies space):

- Solid: fixed shape and volume
- Liquid: variable shape, fixed volume
- Gas: variable shape and volume

Matter: (smartlist) Mixes (can be separated) Homogeneous (ex: separation of methanol and ethanol) Heterogeneous Pure substances Elements Molecular Atomical (Composti) Molecular Ionic

Physical transformation: only the state or the look of the substance are changed. Physical properties: colour, odour, all that changes without the composition Chemical transformation: the composition is also changed. Chemical properties: they change when the composition changes.

Atomic theory Democritus, Plato and Aristotle, then a very late development (Mostly after 1800).

Of course, we use the scientific method.

Law of Conservation of Mass During a chemical reaction, matter cannot be destroyed nor created: it only changes form. So the total mass of the reactants is equal to the mass of the product.

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