Pure Substances

Can be identified using ‘properties of matter’, including density, boiling point and melting point. Every quantitative property of matter can be used to identify a pure substance.

The parts that make up a pure substance will have different properties than the pure mixture’s properties.

Every pure substance has a unique type of particle.

Examples of pure substances include gold, silver, lead, helium, pure water, and pure salt.

There are two types of pure substances;

Elements and Compounds

Elements

A pure substance that can not be broken down into different parts. We call these things ‘elements’ – (see chart) there are about 100 of them in total. Examples include Helium, Oxygen, Mercury, Gold, and Carbon. All elements have a very specific place on the PERIODIC TABKLE OF THE ELEMENTS. (see text page 147). Their place on this table depends on the number of electrons and protons that they have in each particle or “ATOM”.

Compounds

Compounds are made up of two or more elements, and every sample is exactly the same. Examples include water (H2O), Oxygen gas (O2), Carbon Dioxide gas (CO2), and Salt (NaCl).

Each particle of a compound is a “molecule”, and it is made up of a very specific number of atoms of each element that makes up the compound. Examples include the above, as well as other things, like sugar (many kinds, the simplest being C6H12O6), Hydrogen Peroxide (H2O2) and more.