Air Liquide's Main Product Lines

Air Liquide uses gases naturally present in the atmosphere, and then separates and purifies them for all kinds of applications. In addition to these, they use other natural resources of gas and also produce certain gases by chemical reaction. These gases are then sent to customers by pipeline, compressed, put into cylinders, and are delivered in liquid form or, in some cases, are produced directly on the customers site.

Among the best known are:

Oxygen (O_2)

This is essential in the medical field (to revive patients, for respiratory illnesses …). It also has very many uses in industry: bleaching of paper pulp without endangering the environment, purification of water, manufacturing of plastics. It is applied in many combustion processes (blast furnaces, glass ovens). It is used for welding and cutting metal in combination with acetylene. It is necessary for the cryogenic engines of rockets eg ARIANE . Pure oxygen is used in the manufacturing of semiconductors.

Industries: aerospace, chemical, electronic, glass, pulp and paper, healthcare, food, oil and gas, steel, welding & cutting

Nitrogen (N_2)

Because of its chemical inertia, nitrogen is used in the conservation of food, inertial or purging in industrial processes, particularly in chemical and oil-chemical. Liquid at 196°C, nitrogen has many uses in applications in cold environments: frozen food products, conservation of blood or seeds, moulding of plastics, inflating of tires of planes …

Industries: chemical, food, glass, healthcare, metal, pulp & paper, oil & gas, steel, welding & cutting

Argon (Ar)

Often used as a screen gas, argon improves the quality of welding, the manufacture of semi conductors, and allows the thermal processing of metals to give them certain physiochemical properties .. …

Industries: electronics, food, metal, steel, welding & cutting

Rare Gases: Neon (Ne), Krypton (Kr) and Xenon (Xe)

These gases which are present in very small quantities in the air, have applications in lighting, the manufacturing of tinted glass or insulation in double glazing, and in the installation of telecommunications systems in space …

Industries: laboratory & analyses, aerospace, glass

AIR LIQUIDE

Among others of the well known gases, are those which are not air gases but gases resulting from reactions like:

Hydrogen (H_2)

Produced from hydrocarbons or by electrolysis of water, Hydrogen is very largely used in the chemical industry for the manufacture of polymers, the desulphurization of fuels. It is the clean fuel of the engines functioning from fuel cells.

Industries: chemical, electronic, food, glass, metal, oil & gas, steel, welding & cutting

Carbon Dioxide (CO_2)

Extract of natural layers or starting from combustion hydrocarbons, carbon dioxide enters the composition of the atmosphere for the conservation of food, the carbonation of fizzy drinks, and the freezing of fish, meats and other foodstuffs. It is also used as a barrier blocking certain chemical reactions such as combustion. For this reason carbon dioxide is used in certain fire extinguishers.

Industries: food, healthcare, pulp & paper, steel, welding & cutting

Acetylene (C_2H_2)

Acetylene is a synthetic gas. This gaseous hydrocarbon is used (in the presence of oxygen) in metal cutting and welding constructions, and to lubricate moulds in the manufacturing of glass bottles.

Industries: glass, welding

Helium (He)

Apart from its main usage for inflating balloons, helium is used in the aerospace industry to pressurize the cryogenic tanks, and in other applications to detect leakages and to create an atmosphere super-conductive.

Industries: electronics, food, glass, metal , steel, welding& cutting, healthcare

Ozone (O_3)

Ozone is used to neutralize odours, sterilize water, disinfect and sanitize food and vegetables, to bleach textiles and paper pulp, and also in certain chemical manufacturing processes. Ozone also maintains the quality of air in coolers, storage rooms and materials for packaging.

Industries: food, pulp and paper, water purification

Carbon Monoxide (CO)

Many industrial chemical applications use carbon monoxide as a base with several intermediaries types synthesis.

Industries: chemical, pharmaceutical