

## Oil junior

Oil is a combustible fossil, like coal and natural gas. These combustibles are formed from the transformation of the remains of animal and vegetable organisms buried for millions of years. The origin of oil, in particular, is from organic debris accumulated on the bed of ancient seas and lakes. Crude oil that is extracted from deep underground oil fields, is a mixture of hydrocarbons, substances that have a different molecular structure but the same chemical composition. In fact these compounds are made up of two types of atoms only: carbon atoms and hydrogen atoms. Depending on the quantity of carbon atoms present in the molecule, the hydrocarbons are gaseous (up to 4 atoms), liquid (5 to 16 atoms) or solid (more than 16 atoms). Oil is a liquid fossil combustible.

Man has known oil for thousands of years, because this combustible at times seeps to the surface. 5,000 years ago, the Egyptians used it as a medicinal product and to mummify the dead, while the Persians and the Romans used it for lighting and in fire weapons. Marco Polo narrated that in the region of Baku on the Caspian Sea there were strange pools of a liquid as black as the night. But he did not know it was oil.

Today, combustible fossils, in particular oil, account for most of the energy we utilize. However it is a non renewable source and therefore one day it will become completely depleted. From oil we obtain many products such as the combustibles (petrol and heating oil) and most plastic materials we use every day.

Oil, before becoming petrol and plastic, must undergo a production process carried out by man, that is very complex and begins from the search of oil fields, continues with the extraction phases, processing and transportation, in order to bring oil to the filling station near our home, or the plastic bottle to the supermarket. When an oilfield is identified, wells are drilled to extract the oil. Drilling an oil well is a complex operation but the basic mechanism is simple, a rotating chisel connected to empty rods drills the rock deep underground. Depths up to 8,000 m can be reached. When extracted, the crude oil consists of a mixture of gas and liquids that must be processed and purified before being transported in the oil and gas pipes. Oil is transported to the refineries in oil pipelines or in oil tankers. Oil refining consists of a series of transformations by means of which it is possible to obtain an infinite number of products from crude oil, such as petrol for cars, combustibles for the industries and for heating, and petrochemical products.