Oil is a fossil fuel, flammable, oily and less dense (from 0.66 tons/m³ to 0.95 tons/m³) than water and insoluble in it. Oil is the main source of energy in the world today.

Oil can present different forms of color and viscosity, depending on the concentrations of hydrocarbons making up the mixture.
The oil is evenly constituted by organic molecules from carbon and hydrogen mostly paraffins, naphthenes, aromatics and methane (50% to 97%), nitrogen, oxygen and sulfur (6% to 10%) and small amounts of metals as copper, nickel, vanadium and iron (1%). Its general formula is C (n) H (2n +2) and commercially measured “barrels” of 42 U.S. gallons, equivalent to 158.99 liters.

A theory states that oil began to form more than 300 million years mainly on algae and plant cell organisms found in large amounts in oceans, fresh water and marshes.
Through photosynthesis, these organisms convert light energy and inorganic matter into organic molecules (sugars, lipids, etc.) and other products such as carbon dioxide with chemical energy stored in molecular bonds.

As these organisms died or expelled their products, settled and sedimented in the bottom of the sea or body of water and partially decomposed by bacteria in the absence of oxygen, in huge amounts of organic material called “peat”.
Eventually, these peats were coated with layers of mud, silt and rocks from 600 to 5 km deep in the Earth’s litosphere through geological processes generating high pressures and temperatures that were exercised on the “peats” changing their chemical composition until finally the oxygen, nitrogen, sulfur and water from the peat leaving out small and stable molecules with high concentration of carbon and energy stored in large links. This process can take anywhere from hundreds to millions of years.
Once the oil has been formed and because it is less dense than water, it will flow through the crust driven by energy from the earth’s core, through the pores of sediments that contain it. However, often this flow meets layers of rock, sand or clays that prevent their migration, so that the oil is trapped and forms a reservoir or oil reservoir.

Besides being used as transport fuel by excellence (85% of the total is used for this purpose), is an essential raw material to produce various products such as fibers,
rubber, plastics, soaps, bitumen, printing inks, textiles, fertilizers polymers, among others.

Oil production is currently used in 45% automobile gasoline, 29% as diesel fuels and heating oils, 21% other chemical products such as synthetic rubber and plastics, 9% as jet fuel and 2.4% as asphalt.
The largest producers of oil in the world are the United States, Russia, Iran, Saudi Arabia, Venezuela, Kuwait, Libya, Iraq, Kazakhstan, China and the United Arab Emirates.

Oil is classified according to its origin (Europe Brent, U.S. West Texas, Asia-Pacific Dubai) and also according to their density (light, medium, heavy and extraheavy) and according to sulfur content.

Source: http://www.artinaid.com/2013/04/oil/