

This table presents the elemental composition ranges for crude oils, focusing on both global averages and a specific example from Kuwait. The table highlights that crude oil from Kuwait contains 2.44% sulfur and 0.14% nitrogen, which are within typical global ranges but specific to the regional composition of Kuwaiti oil. Understanding these components helps in refining processes, as each element requires different handling and processing methods, and it also determines the environmental and economic factors linked to oil extraction and usage. Key elements considered are carbon, hydrogen, sulfur, nitrogen, oxygen, nickel (Ni), and vanadium (V). Carbon and hydrogen make up the bulk of crude oil, with global carbon content ranging from 83.0% to 87.0% and hydrogen from 10.0% to 14.0%. The presence of metals like nickel and vanadium is also crucial to note, as they can affect refining processes and the quality of the final fuel products. Sulfur and nitrogen are present in smaller amounts, but they are significant due to their environmental impact when the oil is processed and burned. Both nickel and vanadium are found in trace amounts, less than 120 parts per million (ppm) and 1200 ppm respectively, globally. Ppm is equivalent to mg/L, which is a common unit used to describe the concentration of metals in crude oil.