Mineralization is defined as deposition of inorganic constituents in normal or pathological conditions, is synonymous with calcification, since the major inorganic sediments contain large amounts of calcium (Ca). Living organisms, thanks to their constant pH, temperature and oxidation potential create favorable conditions for the physico-chemical crystallization of various organic and inorganic compounds. Compounds crystallizing in different parts of the human body (e.g. blood vessels, kidney, gallbladder) can cause serious impairment of their functions. Recognition of these compounds, as well as the processes leading to mineralization provides the basis for further work on prevention and fight against this phenomenon. Mineralization of the arteries and related cardiovascular diseases are the leading cause of death, hence the great interest of this pathological condition.