The thesis studies classes of Boolean formulae for which the well-known satisfiability problem is solvable in polynomially bounded time. It focusses on classes based on unit resolution; it describe classes of unit refutation complete formulae, unit propagation complete formulae and focuses on the class of SLUR formulae. It presents properties of SLUR formulae as well as the recently obtained results. The main result is the coNP-completness of membership testing. Finally, several hierarchies are built over the SLUR class and their properties and mutual relations are studied.