Quantum dots are increasingly important in many fields of science. Aminy other methods, quantum dots can also be formed by nucleation processes. In present work we study early stage of nucleation in NaCl and KCl crystals doped with PbCl2. Defect energies of small Pb clusters were calculated using numerical lattice methods. In NaCl-Pb system most stable small clusters have planar structure in {1; 1; 1}Na host lattice plane and intermittent planar phase nucleates. In contrast in KCl-Pb system small clusters with Suzuki phase structure are most stable and Suzuki phase nucleates. Formation of Suzuki phase hinders further transition to stable structure. These results of computer simulation are in agreemend with experimentally observed differences in KCl-Pb and NaCl-Pb systems behavior.