Selenium nanocomposites have promising applications as materials for electronics, photonics and pharmacology. But the properties of elemental selenium in these materials are not investigated completely. Selenium has many amorphous and crystalline modifications. Amorphous forms can transfer in crystalline ones at heating or static pressure about 14GPa. But nanosized selenium differs from compact one and has a transfer at a more high pressure which depends on properties of nanoparticles - its sizes and surrounding matrixes. For understanding of fundamental properties of these composites shock wave action with high resolution and express X-ray study is the very significant method. Selenium nanocomposites were obtained after drying of water solutions of polyvinyl alcohol contained nanosized selenium. Last one was the result of reaction of reduction of ammonium selenite by hydrazine-hydrate. Samples of nanocomposites were investigated before and after shock wave action. Optical, electronic microscopy, conventional X-ray diffraction and the small angle X-ray scattering method with synchrotron radiation of collider VEPP-3 were used. Shock waves were results of explosion in special chamber. Experimental data are analyzed and discussed.