The new compound AgMnPO₄ has been synthesized by a solid-state reaction route. Its crystal structure was determined from single-crystal X-ray diffraction data. AgMnPO₄ crystallizes with triclinic symmetry, space group $P\overline{1}$, $a = 9.6710(6)$ Å, $b = 5.695(2)$ Å, $c = 6.629(3)$ Å, $\alpha = 102.55(3)$°, $\beta = 105.85(2)$°, and $\gamma = 80.70(2)$°. Its structure is built up from MnO₆, MnO₅ and PO₄ polyhedra forming tunnels filled with silver atoms.

Key words: Phosphate, Single Crystal X-Ray Diffraction, Oxide