

CRYSTAL STRUCTURES OF RHODIUM(III) AQUA ION WITH TETRAHEDRAL ANIONS

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The crystal structures of compounds of the composition $[\text{Rh}(\text{H}_2\text{O})_6]_2(\text{SO}_4)_3 \cdot 5\text{H}_2\text{O}$ (**I**) and $[\text{Rh}(\text{H}_2\text{O})_6]\text{PO}_4$ (**II**) are determined. Crystallographic data for **I**: $a = 7.272(9) \text{ \AA}$, $b = 27.047(1) \text{ \AA}$, $c = 12.464(9) \text{ \AA}$, $\beta = 97.038(10)^\circ$, $P2_1$ space group, $Z = 4$, $d_x = 2.184 \text{ g/cm}^3$; for **II**: $a = 9.746(6) \text{ \AA}$, $b = 6.877(7) \text{ \AA}$, $c = 23.623(6) \text{ \AA}$, $\beta = 100.601(10)^\circ$, $C2/c$ space group, $Z = 8$, $d_x = 2.611 \text{ g/cm}^3$. Compounds are analyzed by IR spectroscopy and powder XRD. Crystalline phase **I** is well soluble in water, whereas **II** is almost insoluble.

Keywords: rhodium, aqua ion, coordination compounds, crystal structure.