

**Hydroxyplumbopyrochlore**

**Crystal Data:** Cubic. *Point Group:*  $4/m\bar{3}2/m$ . As euhedral octahedral crystals to 0.06 mm slightly modified by rhombododecahedra or cubes.

**Physical Properties:** *Cleavage:* None. *Tenacity:* Brittle. *Fracture:* Conchoidal. Hardness = ~5.5  
D(meas.) = n.d. D(calc.) = 6.474

**Optical Properties:** Transparent. *Color:* Pale yellow to pale brown. *Streak:* White.

*Luster:* Adamantine.

*Optical Class:* Isotropic.  $n(\text{calc.}) = 2.26(3)$

**Cell Data:** *Space Group:*  $Fd\bar{3}m$ .  $a = 10.5456(6)$   $Z = 8$

**X-Ray Diffraction Pattern:** Jabal Sayid granitic complex, Arabian Shield, Saudi Arabia.  
3.043 (100), 1.591 (43), 2.636 (42), 1.862 (36), 1.183 (12), 6.051 (8), 1.521 (8)

<b>Chemistry:</b>	(1)
CaO	0.32
SrO	0.16
FeO	0.17
Ce <sub>2</sub> O <sub>3</sub>	0.07
Pr <sub>2</sub> O <sub>3</sub>	0.02
PbO	51.69
Nb <sub>2</sub> O <sub>5</sub>	40.06
SiO <sub>2</sub>	0.05
TiO <sub>2</sub>	1.68
Ta <sub>2</sub> O <sub>5</sub>	4.74
H <sub>2</sub> O	[0.95]
F	0.0
Total	99.90.

(1) Jabal Sayid granitic complex, Arabian Shield, Saudi Arabia; average electron microprobe analysis supplemented by Raman spectroscopy, H<sub>2</sub>O calculated from structure; corresponds to  $A(\text{Pb}_{1.34}\text{Ca}_{0.03}\text{Fe}_{0.01}\text{Sr}_{0.01}\square_{0.61})_{\Sigma=2.00}B(\text{Nb}_{1.75}\text{Ti}_{0.12}\text{Ta}_{0.12}\text{Si}_{0.01})_{\Sigma=2.00}X\text{O}_6Y[(\text{OH})_{0.53}\text{O}_{0.08}\square_{0.39}]_{\Sigma=1.00}$ .

**Mineral Group:** Pyrochlore supergroup, pyrochlore group.

**Occurrence:** From pegmatite-aplite in a peralkaline granitic complex.

**Association:** Quartz, microcline, “biotite,” rutile, zircon, calcite, rhodochrosite, columbite-(Fe), goethite, thorite, bastnäsite-(Ce), xenotime-(Y), samarskite-(Y), euxenite-(Y), “hydroxyrochlore,” fluornatropyrochlore.

**Distribution:** From the Jabal Sayid peralkaline granitic complex, Arabian Shield, Saudi Arabia.

**Name:** The first prefix, *hydroxy*, indicates dominant OH at the Y site, the second prefix, *plumbo*, indicates the dominant lead in the A site of a member of the *pyrochlore* subgroup.

**Type Material:** Geological Museum of China, Beijing, China (M13239).

**References:** (1) Li, T., Z. Li, G. Fan, H. Fan, J. Zhong, N.S. Jahdali, M. Qin, A.M. Jehani, F. Wang, and M.M. Nahdi (2020) Hydroxyplumbopyrochlore, (Pb<sub>1.5</sub>,□<sub>0.5</sub>)Nb<sub>2</sub>O<sub>6</sub>(OH), a new member of the pyrochlore group from Jabal Sayid, Saudi Arabia. *Mineral. Mag.*, 84(5), 785-790. (2) (2021) *Amer. Mineral.*, 106, 1187-1189 (abs. ref. 1).