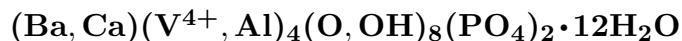


Phosphovanadylite



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Crystal Data: Cubic. *Point Group:* $\bar{4}3m$. Pseudocubes, to 50 μm , in aggregates and crusts.

Physical Properties: Hardness = n.d. $D(\text{meas.}) = 2.16(3)$ $D(\text{calc.}) = [2.13]$

Optical Properties: Transparent. *Color:* Pale greenish blue; greenish black on oxidation after long exposure to air. *Streak:* Very pale greenish blue. *Luster:* Vitreous.

Optical Class: Isotropic. $n = 1.566(4)$

Cell Data: *Space Group:* $I\bar{4}3m$. $a = 15.470(4)$ $Z = 6$

X-ray Powder Pattern: Enoch Valley mine, Idaho, USA.

3.164 (100), 2.582 (37), 2.445 (36), 7.73 (34), 10.8 (29), 2.738 (29), 2.827 (28)

Chemistry:

	(1)
P_2O_5	22.7
V_2O_4	45.6
Al_2O_3	3.7
ZnO	0.4
CdO	0.1
CaO	1.8
BaO	9.2
Na_2O	0.2
K_2O	0.9
F	0.03
H_2O	n.d.
<hr/>	
Total	

(1) Enoch Valley mine, Idaho, USA; by electron microprobe, partial analysis, H_2O and $(\text{OH})^{1-}$ from structure analysis; corresponds to $(\text{Ba}_{0.38}\text{Ca}_{0.20}\text{K}_{0.06}\text{Na}_{0.02})_{\Sigma=0.66}(\text{V}_{3.44}\text{Al}_{0.46})_{\Sigma=3.90}\text{P}_2[\text{O}_{10.34}\text{OH}_{5.66}]_{\Sigma=16.00} \cdot 12\text{H}_2\text{O}$.

Occurrence: A rare mineral coating organic-rich phosphatic mudstone in the Phosphoria Formation.

Association: Sincosite.

Distribution: From the Enoch Valley phosphate mine, Soda Springs, Caribou Co., Idaho, USA.

Name: For *phosphorus* and *vanadyl* vanadium in the composition.

Type Material: n.d.

References: (1) Medrano, M.D., H.T. Evans, Jr., H.-R. Wenk, and D.Z. Piper (1998) Phosphovanadylite: a new vanadium phosphate mineral with a zeolite-type structure. *Amer. Mineral.*, 83, 889–895.