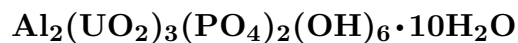


Phuralumite



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Crystal Data: Monoclinic. *Point Group:* $2/m$. As prismatic crystals, elongated along [001], flattened on [010], with {110}, $\{\bar{1}01\}$, {001}, to 0.5 mm, in crystalline veinlets and crusts.

Physical Properties: *Cleavage:* On {010}, perfect. Hardness = ~ 3 D(meas.) = 3.5 D(calc.) = 3.52 Radioactive.

Optical Properties: Semitransparent. *Color:* Lemon-yellow. *Optical Class:* Biaxial (-). *Pleochroism:* X = bright yellow; Y = Z = pale yellow. *Orientation:* X = b; Y \wedge c = 0° - 8° . $\alpha = [1.559]$ $\beta = 1.616$ $\gamma = 1.624$ 2V(meas.) = 40°

Cell Data: *Space Group:* $P2_1/a$. a = 13.836(6) b = 20.918(6) c = 9.428(3) $\beta = 112.44(3)^\circ$ Z = 4

X-ray Powder Pattern: Kobokobo pegmatite, Congo. 10.4 (100), 3.08 (80), 5.17 (70), 3.40 (50), 3.47 (40), 8.0 (20), 2.95 (20)

Chemistry:	(1)	(2)
UO ₃	65.9	64.22
P ₂ O ₅	10.3	10.62
Al ₂ O ₃	7.6	7.63
H ₂ O	[16.2]	17.53
Total	[100.0]	100.00

(1) Kobokobo pegmatite, Congo; by electron microprobe, H₂O by difference. (2) Al₂(UO₂)₃(PO₄)₂(OH)₆•10H₂O.

Occurrence: A rare secondary mineral in the oxidized uraniferous zone of a complex granite pegmatite.

Association: Meta-autunite, phosphuranylite, threadgoldite, upalite.

Distribution: From the Kobokobo pegmatite, Lusungu River district, Kivu Province, Congo (Zaire).

Name: For PHosphorus, URanium, and ALUMinum in the composition.

Type Material: Royal Museum of Central Africa, Tervuren, Belgium, RMG6201, RMG6195, RMG6197, RMG9852.

References: (1) Deliens, M. and P. Piret (1979) Les phosphates d'uranyle et d'aluminium de Kobokobo. II. La phuralumite Al₂(UO₂)₃(PO₄)₂(OH)₆•10H₂O et l'upalite Al(UO₂)₃(PO₄)₂(OH)₃, nouveaux minéraux. Bull. Minéral., 102, 333-337 (in French with English abs.). (2) (1980) Amer. Mineral., 65, 208 (abs. ref. 1). (3) Piret, P., J. Piret-Meunier, and J.-P. Declercq (1979) Structure of phuralumite. Acta Cryst., 35, 1880-1882.