

Kamitugaite**PbAl(UO₂)₅(PO₄, AsO₄)₂(OH)₉•9.5H₂O**

©2001-2005 Mineral Data Publishing, version 1

Crystal Data: Triclinic. *Point Group:* $\bar{1}$ or 1. As thin tablets elongated along [100], with {010} dominant, {001} less developed, and terminated by {100} and {101}, to 0.5 mm.

Physical Properties: *Cleavage:* Good on {010} and {001}. *Hardness* = 3 (probable). D(meas.) = 4.03 D(calc.) = 4.47 *Radioactive.*

Optical Properties: Transparent to translucent. *Color:* Bright yellow. *Streak:* White. *Luster:* Vitreous.

Optical Class: Biaxial (-). *Pleochroism:* Strong; X = colorless; Y = yellow. *Orientation:* X \simeq b*; Y \wedge a = 1°-2°; Z \perp a and b*. $\alpha = [1.709]$ $\beta = 1.735(2)$ $\gamma = 1.744(2)$
2V(meas.) = 60(3)°

Cell Data: *Space Group:* $P\bar{1}$ or P1. a = 10.98(2) b = 15.96(2) c = 9.068(6)
 $\alpha = 95.1(2)^\circ$ $\beta = 96.1(2)^\circ$ $\gamma = 89.0(2)^\circ$ Z = 2

X-ray Powder Pattern: Kobokobo pegmatite, Congo.
7.95 (100), 3.972 (80), 3.271 (40), 3.175 (40), 15.92 (30), 3.493 (30), 4.307 (25)

Chemistry:

	(1)
UO ₃	71.76
P ₂ O ₅	5.48
As ₂ O ₅	2.12
Al ₂ O ₃	2.39
PbO	9.86
H ₂ O	[8.39]
Total	[100.00]

(1) Kobokobo pegmatite, Congo; by electron microprobe, average of three analyses, H₂O by difference; corresponding to Pb_{0.90}Al_{0.96}(UO₂)_{5.10}[(P_{0.79}As_{0.19}) $\Sigma=0.98$ O₄]₂(OH)₉•9.5H₂O.

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

Association: Dumontite, studtite, triangulite, threadgoldite, phuralumite, upalite, mundite, metatorbernite, muscovite, albite, quartz.

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

Name: For Kamituga, Congo, the mining center on which exploitation of Kobokobo depended.

Type Material: Royal Museum of Central Africa, Tervuren, Belgium, RMG13985, RMG13986.

References: (1) Deliens, M. and P. Piret (1984) La kamitugaïte, PbAl(UO₂)₅[(P, As)O₄]₂(OH)₉•9.5H₂O, nouveau minéral de Kobokobo, Kivu, Zaïre. Bull. Minéral., 107, 15-19 (in French with English abs.). (2) (1985) Amer. Mineral., 70, 437 (abs. ref. 1).