

Koninckite



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Crystal Data: Tetragonal. *Point Group:* n.d. Crystals, fibrous in spherical aggregates, to 0.8 mm.

Physical Properties: *Cleavage:* One, transverse to elongation. *Hardness* = 3.5
D(meas.) = 2.40(3) D(calc.) = [2.56]

Optical Properties: Transparent. *Color:* Yellow to white; pale yellow to colorless in transmitted light. *Streak:* Pale yellow. *Luster:* Vitreous.
Optical Class: Uniaxial (+), may be biaxial to nearly isotropic. *Orientation:* X = elongation.
 $\omega = 1.645\text{--}1.648$ $\epsilon = 1.655\text{--}1.669$ $2V(\text{meas.}) = \text{Small}$.

Cell Data: *Space Group:* n.d. $a = 11.95\text{--}11.977$ $c = 14.52\text{--}14.625$ $Z = 16$

X-ray Powder Pattern: Richelle, Belgium.
8.42 (100), 3.77 (28), 2.98 (18), 3.85 (10), 2.83 (9), 5.99 (8), 4.48 (4)

Chemistry:	(1)	(2)	(3)
P ₂ O ₅	34.8	35.16	34.64
Al ₂ O ₃	4.6	2.52	
Fe ₂ O ₃	34.4	35.73	38.98
H ₂ O	[26.2]	[26.59]	26.38
Total	[100.0]	[100.00]	100.00

(1) Richelle, Belgium; average of two analyses, H₂O by difference; corresponds to (Fe_{0.83}Al_{0.17})_{Σ=1.00}PO₄•3H₂O. (2) Suwa mine, Japan; by electron microprobe, H₂O by difference; corresponds to (Fe_{0.90}Al_{0.10})_{Σ=1.00}P_{1.00}O₄•2.98H₂O. (3) FePO₄•3H₂O.

Occurrence: Presumably as a secondary mineral in phosphatic sedimentary rocks (Richelle, Belgium); in a hydrothermally altered andesite enriched in Fe, SO₄, and PO₄ (Suwa mine, Japan).

Association: Richellite, halloysite, allophane (Richelle, Belgium); tenticite, strengite, jarosite, goethite (Suwa mine, Japan).

Distribution: From Richelle, near Visé, Belgium. In Japan, from a cave near Oni-Ana, Fukushima Prefecture, and at the Suwa mine, about seven km south-southwest of Mt. Tateshina, Nagano Prefecture, Japan. In the Kovdor massif, Kola Peninsula, Russia.

Name: Honors Laurent Guillaume de Koninck (1809–1887), Belgian geologist, University of Liège, Liège, Belgium.

Type Material: University of Liège, Liège, Belgium, 9251–9257.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 763. (2) Van Tassel, R. (1968) Données cristallographiques sur la koninckite. Bull. Soc. fr. Minéral., 91, 487–489 (in French with English abs.). (3) Sakurai, K., S. Matsubara, and A. Kato (1987) Koninckite from the Suwa mine, Chino City, Nagano Prefecture, Japan. Bull. Nat. Sci. Mus. Tokyo, Ser. C, 13, 149–156.