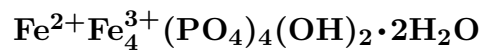


Giniite

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Crystal Data: Monoclinic, pseudo-orthorhombic. *Point Group:* $2/m$. As crystals, flattened on {100}, elongated along [010], showing {201}, {210}, {103}, {010}, to 0.5 mm, in aggregates. *Twinning:* Common on $\{\bar{1}12\}$, as geniculated and penetration twins.

Physical Properties: *Fracture:* Conchoidal. Hardness = 3–4 D(meas.) = 3.41
D(calc.) = 3.42

Optical Properties: Transparent. *Color:* Dark greenish black to brownish black.
Streak: Olive-green. *Luster:* Vitreous to greasy.
Optical Class: Biaxial (–). *Pleochroism:* X = light brown; Y = dark brown; Z = dark blue-green. *Orientation:* $X = b$; $Z = c$; $Y \wedge a \simeq 20^\circ$. $\alpha = 1.775(4)$ $\beta = 1.803(4)$ $\gamma = 1.812(4)$
 $2V(\text{meas.}) = 55(5)^\circ$

Cell Data: *Space Group:* $P2/a$. $a = 14.253(3)$ $b = 5.152(1)$ $c = 10.353(2)$
 $\beta = 111.30(1)^\circ$ $Z = 2$

X-ray Powder Pattern: Sandamap pegmatite, Namibia.
3.36 (10), 3.20 (7), 2.04 (7), 1.604 (7), 2.28 (6), 1.679 (6), 2.80 (5)

Chemistry:

	(1)	(2)
P ₂ O ₅	36.99	38.94
Al ₂ O ₃	1.20	
Fe ₂ O ₃	46.07	43.80
FeO	n.d.	9.85
MnO	0.63	
MgO	0.68	
H ₂ O	6.45	7.41
Total	[92.02]	100.00

(1) Sandamap pegmatite, Namibia; by electron microprobe, total Fe as Fe₂O₃, H₂O by TGA.

(2) $\text{Fe}^{2+}\text{Fe}_4^{3+}(\text{PO}_4)_4(\text{OH})_2 \cdot 2\text{H}_2\text{O}$.

Occurrence: A secondary mineral in a complex granite pegmatite.

Association: Triphylite, barboselite, huréaulite, leucophosphite, phosphosiderite, mélonjosephite, tavorite, whitlockite, monetite.

Distribution: At the Sandamap pegmatite, west of Usakos, Namibia.

Name: To honor Adelheid (Gini) Keller (1940–), wife of Paul Keller.

Type Material: University of Stuttgart, Stuttgart, Germany, NM01.

References: (1) Keller, P. (1980) Giniit, $\text{Fe}^{2+}\text{Fe}_4^{3+}[(\text{H}_2\text{O})_2](\text{OH})_2[(\text{PO}_4)_4]$, ein neues Mineral aus dem Pegmatit von Sandamab [sic] bei Usakos, Namibia. Neues Jahrb. Mineral., Monatsh., 49–56 (in German with English abs.). (2) (1980) Amer. Mineral., 65, 1066 (abs. ref. 1). (3) Keller, P. (1980) Giniit, $\text{Fe}^{2+}\text{Fe}_4^{3+}[(\text{H}_2\text{O})_2](\text{OH})_2[(\text{PO}_4)_4]$: neue kristallographische Daten. Neues Jahrb. Mineral., Monatsh., 561–563 (in German with English abs.).