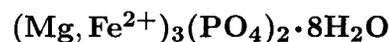


**Barićite**

**Crystal Data:** Monoclinic. *Point Group:* 2/m. As thick plates, parallel to {010}, to 12 cm.

**Physical Properties:** *Cleavage:* Perfect on {010}. *Tenacity:* Flexible in thin flakes.  
Hardness = 1.5–2 D(meas.) = 2.35–2.42 D(calc.) = 2.448

**Optical Properties:** Translucent. *Color:* Colorless to pale blue, varies with iron oxidation.  
*Streak:* White to pale blue, darkening after several days. *Luster:* Vitreous, pearly on {010}.  
*Optical Class:* Biaxial (+). *Pleochroism:* X = blue; Y = Z = colorless. *Orientation:*  
X = b; Z  $\wedge$  c = 28°–30°. *Dispersion:* r < v, weak.  $\alpha$  = 1.547–1.554  $\beta$  = 1.553–1.564  
 $\gamma$  = 1.582–1.595 2V(meas.) = 55°–60° 2V(calc.) = 60°

**Cell Data:** *Space Group:* C2/m. a = 10.075 b = 13.416–13.434 c = 4.622–4.670  
 $\beta$  = 104°22'–104°52' Z = 2

**X-ray Powder Pattern:** Yukon Territory, Canada.

6.71 (100), 2.699 (70), 2.956 (60), 2.526 (50), 3.196 (40), 2.418 (35), 2.217 (30)

**Chemistry:**

	(1)	(2)	(3)
P <sub>2</sub> O <sub>5</sub>	31.28	31.45	31.25
Fe <sub>2</sub> O <sub>3</sub>	2.77	0.20	
FeO	19.90	15.10	23.72
MnO		2.95	
MgO	15.36	16.40	13.31
H <sub>2</sub> O	28.96	30.75	31.72
Total	[98.27]	[96.85]	100.00

(1) Yukon Territory, Canada; Fe<sup>2+</sup>:Fe<sup>3+</sup> = 7.98:1 by TGA, H<sub>2</sub>O by TGA; corresponding to (Mg<sub>1.64</sub>Fe<sub>1.21</sub>Fe<sub>0.15</sub><sup>3+</sup>)<sub>Σ=3.00</sub>(PO<sub>4</sub>)<sub>2</sub>(OH)<sub>0.15</sub> • 7.85H<sub>2</sub>O. (2) Marlborough Province, New Zealand; Fe<sup>2+</sup>:Fe<sup>3+</sup> from (1); correcting from average of three microprobe analyses for Mn and Ca, then corresponding to (Mg<sub>2.04</sub>Fe<sub>0.86</sub><sup>2+</sup>Mn<sub>0.21</sub>Ca<sub>0.04</sub>Fe<sub>0.01</sub><sup>3+</sup>)<sub>Σ=3.16</sub>(PO<sub>4</sub>)<sub>2.04</sub> • 7.90H<sub>2</sub>O. (3) (Mg, Fe<sup>2+</sup>)<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub> • 8H<sub>2</sub>O with Mg:Fe<sup>2+</sup> = 1:1.

**Mineral Group:** Vivianite group.

**Occurrence:** As fracture fillings in sideritic iron formation (Yukon Territory, Canada); as a folded ribbonlike mass in sediment from a raised beach (Marlborough Province, New Zealand).

**Association:** Siderite, vivianite, lazulite, whiteite, collinsite, childrenite, quartz (Yukon Territory, Canada).

**Distribution:** From the Big Fish River–Rapid Creek area, Yukon Territory, Canada. In Marlborough Province, New Zealand.

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**Type Material:** Mineralogical and Petrological Museum, Zagreb, Croatia; Royal Ontario Museum, Toronto, Canada, M34169, M35430; National Museum of Natural History, Washington, D.C., USA, 135698, 137303, 145736.

**References:** (1) Sturman, B.D. and J.A. Mandarino (1976) Barićite, the magnesium analogue of vivianite, from Yukon Territory, Canada. *Can. Mineral.*, 14, 403–406. (2) (1976) *Amer. Mineral.*, 61, 1053 (abs. concerning ref. 1). (3) Rodgers, K.A. (1987) Baraćite [= barićite], a further occurrence. *Neues Jahrb. Mineral., Monatsh.*, 183–192.