

Manandonite

$\text{Li}_2\text{Al}_4(\text{Si}_2\text{AlB})\text{O}_{10}(\text{OH})_8$

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Crystal Data: Orthorhombic. *Point Group:* 222. As micaceous pseudo-hexagonal plates, fanlike lamellar aggregates, or as globules, to about 1 mm, forming crusts. *Twining:* Commonly twinned around [001], producing six-fold sectors.

Physical Properties: *Cleavage:* Perfect on {001}. *Hardness* = 2.5 *D*(meas.) = 2.76–2.89 *D*(calc.) = 2.79

Optical Properties: Transparent to translucent. *Color:* White as crystals; dull yellow as globules. *Luster:* Pearly on cleavages.

Optical Class: Biaxial (+) to pseuduniaxial. *Orientation:* $Z \perp \{001\}$. $\alpha = 1.604(5)$
 $\beta = 1.604(5)$ $\gamma = \text{n.d.}$ $2V(\text{meas.}) = 10^\circ\text{--}15^\circ$

Cell Data: *Space Group:* $C222_1$. $a = 5.057(4)$ $b = 8.765(7)$ $c = 13.769(9)$ $Z = 2$

X-ray Powder Pattern: Antandrokomby, Madagascar.

6.92 (100), 3.447 (80), 2.376 (35), 4.362 (25), 2.489 (15), 1.863 (15), 4.158 (10)

Chemistry:

	(1)	(2)	(3)
SiO ₂	25.20	23.12	23.48
B ₂ O ₃	9.25	7.74	6.80
Al ₂ O ₃	47.02	48.06	49.80
MnO		0.02	
MgO		0.03	
CaO		0.07	
Li ₂ O	3.97	5.40	5.84
Na ₂ O	0.48	0.13	
K ₂ O	0.20		
H ₂ O	14.10	15.43	14.08
Total	100.22	[100.00]	100.00

(1) Antandrokomby, Madagascar. (2) Do.; combined wet chemical analysis, plasma spectrometry, AA, and TGA, recalculated to 100.00% after deduction of FeO(OH) impurities.

(3) $\text{Li}_2\text{Al}_4(\text{Si}_2\text{AlB})\text{O}_{10}(\text{OH})_8$.

Mineral Group: Kaolinite-serpentine group.

Occurrence: In miarolitic cavities developed in corroded differentiated quartz-microcline-tourmaline-bearing pegmatites.

Association: Elbaite, quartz, microcline, albite.

Distribution: At the Antandrokomby pegmatite, on the Manandona River, Sahatany Valley, Madagascar.

Name: For the Manandona River, nearby the type locality in Madagascar.

Type Material: n.d.

References: (1) Lacroix, M.A. (1912) Sur une nouvelle espèce minérale (manandonite) des pegmatites de Madagascar. *Bull. Soc. fr. Minéral.*, 35, 223–226 (in French). (2) Ranoroosa, N., F. Fontan, and A.-M. Fransolet (1989) Rediscovery of manandonite in the Sahatany valley, Madagascar. *Eur. J. Mineral.*, 1, 633–638.