

**Crystal Data:** Monoclinic. *Point Group:* 2/m. Tabular crystals, pseudo-hexagonal, to 3.5 cm; as individual scales or lamellar, also in cryptocrystalline aggregates. *Twinning:* Penetration trillings rare.

**Physical Properties:** *Cleavage:* {001}, perfect. *Tenacity:* Foliae flexible, somewhat elastic. Hardness = 2.5–3.5 D(meas.) = 2.83–2.90 D(calc.) = 2.80

**Optical Properties:** Transparent. *Color:* Colorless, brown to greenish brown, typically concentrically zoned. *Luster:* Vitreous, silky.

*Optical Class:* Biaxial (-). *Pleochroism:* X = colorless to pale greenish brown; Y = Z = yellowish to reddish brown. *Absorption:* Y = Z > X.  $\alpha = 1.522\text{--}1.541$   $\beta = 1.553\text{--}1.570$   $\gamma = 1.553\text{--}1.570$  2V(meas.) = 0°–5°

**Cell Data:** *Space Group:* C2/m.  $a = 5.254(2)$   $b = 9.110(4)$   $c = 10.187(2)$   
 $\beta = 99.85(4)^\circ$  Z = 2

**X-ray Powder Pattern:** Magnet Cove, Arkansas, USA; 1M.  
3.34 (100), 10.04 (74), 5.01 (44), 1.999 (35), 3.12 (26), 2.88 (25), 3.60 (17)

<b>Chemistry:</b>	(1)	(2)	(3)		(1)	(2)	(3)
SiO <sub>2</sub>	52.2	52.88	53.5	Na <sub>2</sub> O	1.8	1.22	0.27
TiO <sub>2</sub>		2.00	1.06	K <sub>2</sub> O	11.5	11.38	11.3
Al <sub>2</sub> O <sub>3</sub>	2.7	trace	3.00	F		5.36	6.3
FeO	0.6	1.89	3.35	H <sub>2</sub> O <sup>+</sup>		4.24	[1.30]
MnO		1.38	0.21	H <sub>2</sub> O <sup>-</sup>		2.00	
MgO	19.1	17.42	18.3	LOI	8.7		
Li <sub>2</sub> O	3.8	2.44	2.4	-O = F <sub>2</sub>		2.25	
				Total	100.4	99.96	[100.99]

(1) Narssârssuk, Greenland. (2) Lovozero massif, Russia. (3) Coyote Peak, California, USA; by electron microprobe, H<sub>2</sub>O calculated to give (F+OH) = 2; corresponding to (K<sub>1.01</sub>Na<sub>0.04</sub>)<sub>Σ=1.05</sub> Li<sub>0.68</sub>(Mg<sub>1.92</sub>Fe<sub>0.20</sub><sup>2+</sup>Ti<sub>0.06</sub>Al<sub>0.01</sub>Mn<sub>0.01</sub>)<sub>Σ=2.20</sub>(Si<sub>3.76</sub>Al<sub>0.24</sub>)<sub>Σ=4.00</sub>O<sub>10</sub>[F<sub>1.40</sub>(OH)<sub>0.60</sub>]<sub>Σ=2.00</sub>.

**Polymorphism & Series:** 1M, 2M<sub>1</sub>, 3A polytypes.

**Mineral Group:** Mica group.

**Occurrence:** A late-stage mineral in nepheline syenite pegmatites.

**Association:** Quartz, dickite (Narssârssuk, Greenland); natrolite, apatite, neptunite, polyolithionite, manganoan pectolite (Lovozero massif, Russia); natrolite, pectolite, aegirine, barytolamprophyllite, rasvumite (Coyote Peak, California, USA).

**Distribution:** From Narssârssuk, Greenland. In the Lovozero and Khibiny massifs, Kola Peninsula, and at several poorly defined localities around Lake Baikal, Siberia, Russia. In the USA, at Magnet Cove, Hot Spring Co., Arkansas, and Coyote Peak, near Orick, Humboldt Co., California. From Mont Saint-Hilaire, Quebec, Canada.

**Name:** From the Greek for *ribbon* in reference to the mineral's tabular crystals.

**Type Material:** University of Copenhagen, Copenhagen, Denmark.

**References:** (1) Dana, E.S. and W.E. Ford (1909) Dana's system of mineralogy, (6th edition), app. II, 102–103. (2) Vlasov, K.A., Ed. (1966) Mineralogy of rare elements, v. II, 29–31. (3) Miser, H.D. and R.E. Stevens (1938) Taeniolite from Magnet Cove, Arkansas. Amer. Mineral., 23, 104–110. (4) La Londe, R.E. (1963) X-ray diffraction data for taeniolite. Amer. Mineral., 48, 204–205. (5) Toraya, H., S. Iwai, F. Marumo, and M. Hirao (1977) The crystal structure of taeniolite, KLiMg<sub>2</sub>Si<sub>4</sub>O<sub>10</sub>F<sub>2</sub>. Zeits. Krist., 146, 73–83. (6) Erd, R.C., G.C. Czamanske, and C.E. Meyer (1983) Taeniolite, an uncommon lithium-mica from Coyote Peak, Humboldt Co., California. Mineral. Record, 14, 39–40.

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