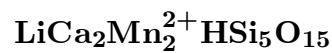


Lithiomarsturite

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Crystal Data: Triclinic. *Point Group:* $\bar{1}$. As nearly equant rhombic to prismatic euhedral crystals, to 3 mm, with {100} prominent, {010} and {001}; divergent bundles of crystals.

Physical Properties: *Cleavage:* {100} and {001}, good. *Tenacity:* Brittle. *Hardness* = ~ 6
D(meas.) = 3.32 D(calc.) = 3.27

Optical Properties: Transparent. *Color:* Pale pinkish brown to light yellow. *Streak:* Very light brown. *Luster:* Vitreous.

Optical Class: Biaxial (-). *Orientation:* $X \wedge b = -7^\circ$; $Y \wedge a = 28^\circ$; $Z \wedge c = 6^\circ$.

Dispersion: $r > v$, moderate. $\alpha = 1.645(1)$ $\beta = 1.660(1)$ $\gamma = 1.666(1)$ $2V(\text{meas.}) = 59.9(8)^\circ$
 $2V(\text{calc.}) = 64^\circ$

Cell Data: *Space Group:* $[P\bar{1}]$ (by analogy to rhodonite). $a = 7.652(3)$ $b = 12.119(3)$
 $c = 6.805(2)$ $\alpha = 85.41(2)^\circ$ $\beta = 94.42(3)^\circ$ $\gamma = 111.51(2)^\circ$ $Z = 2$

X-ray Powder Pattern: Foote mine, North Carolina, USA.

3.01 (100), 3.19 (90), 2.913 (90), 2.744 (60), 3.08 (50), 2.217 (50), 6.79 (20)

Chemistry:

	(1)
SiO ₂	51.6
FeO	6.9
MnO	16.4
MgO	0.7
CaO	19.1
Li ₂ O	2.6
H ₂ O	[1.55]
Total	[98.9]

(1) Foote mine, North Carolina, USA; by electron microprobe, Li by ion microprobe, H₂O calculated from stoichiometry; corresponds to $\text{Li}_{1.01}\text{Ca}_{1.98}(\text{Mn}_{1.35}\text{Fe}_{0.56}\text{Mg}_{0.10})_{\Sigma=2.01}\text{H}_{1.00}\text{Si}_5\text{O}_{15}$.

Occurrence: In small vugs within a complex Li-Sn-rich pegmatite.

Association: Tetrawickmanite, brannockite, parsettensite, bavenite, fluorapatite, albite, pyrite.

Distribution: At the Foote mine, Kings Mountain, Cleveland Co., North Carolina, USA.

Name: As the *lithium* analogue of *marsturite*.

Type Material: National Museum of Natural History, Washington, D.C., USA, 165268, 165460.

References: (1) Peacor, D.R., P.J. Dunn, J.S. White, Jr., J.D. Grice, and P.H. Chi (1990) Lithiomarsturite, a new member of the pyroxenoid group, from North Carolina. *Amer. Mineral.*, 75, 409–414.