

Crystal Data: Orthorhombic. *Point Group:* 2/m 2/m 2/m. As nanocrystals.

Physical Properties: *Cleavage:* n.d. *Tenacity:* n.d. *Fracture:* n.d. *Hardness:* = n.d.
D(meas.) = n.d. D(calc.) = 3.30

Optical Properties: Translucent to transparent. *Color:* n.d. *Streak:* n.d. *Luster:* n.d.
Optical Class: n.d.

Cell Data: *Space Group:* Pbcn. *a* = 9.25(1) *b* = 8.78(1) *c* = 5.32(1) *Z* = n.d.

X-ray Powder Pattern: Calculated pattern.

3.180 (100), 3.184 (47), 2.909 (38), 2.732 (32), 1.972 (26), 3.244 (20), 1.500 (20)

Chemistry:	(1)
SiO ₂	50.91
TiO ₂	0.50
Al ₂ O ₃	10.20
FeO	14.27
MgO	21.97
CaO	0.84
<u>Na₂O</u>	<u>1.37</u>
Total	100.06

(1) Dust Devil Mine, Lake County, Oregon, USA; transmission electron microscope, X-ray energy-dispersive spectroscopy, HRTEM imaging, and selected-area electron diffraction (SAED) analyses; corresponding to (Mg_{1.17}Fe_{0.43}Al_{0.26}Ca_{0.03}Na_{0.10}Ti_{0.01})_{Σ=2.00}(Si_{1.83}Al_{0.17})_{Σ=2.00}O₆.

Polymorphism & Series: Polymorphous with enstatite and clinoenstatite.

Occurrence: As nano-inclusions in gem-quality “watermelon” labradorite “sunstones” (Oregon).

Association: Labradorite plagioclase, copper, clinoenstatite.

Distribution: From gem-quality labradorite phenocrysts (Oregon sunstones), Dust Devil Mine, Lake County, Oregon, USA.

Name: Alludes to a precursor relationship with enstatite and clinoenstatite.

Type Material: Geology Museum, Department of Geoscience, University of Wisconsin, Madison, Wisconsin, USA (UWGM 3538 and UWGM 3539).

References: (1) Huifang Xu, T.R. Hill, H. Konishi, and G. Farfan, (2017) Protoenstatite: A new mineral in Oregon sunstones with “watermelon” colors. *Amer. Mineral.*, 102, 2146-2149.