

Crystal Data: Orthorhombic. *Point Group:* *mm*2. Rarely in lathlike crystals, to 200 μm, and in granular aggregates.

Physical Properties: Hardness = n.d. D(meas.) = 2.80–2.85 D(calc.) = 2.84 Bright greenish yellow cathodoluminescence.

Optical Properties: Transparent. *Color:* Colorless in thin section; light gray in reflected light.

Optical Class: Biaxial (–) (probable). *Orientation:* *Z* = *c*. $\alpha = 1.740$ $\beta = \text{n.d.}$, close to γ . $\gamma = 1.855$ $2V(\text{meas.}) = \text{n.d.}$

Cell Data: *Space Group:* *Cmc*2₁ (synthetic). $a = 8.843(5)$ $b = 5.473(5)$ $c = 4.835(5)$
Z = 4

X-ray Powder Pattern: Synthetic.

4.43 (10), 3.36 (10), 4.66 (8), 2.61 (5), 2.42 (5), 2.39 (4), 4.13 (3)

Chemistry:

	(1)	(2)	(3)
Si	56.6	56.7	56.07
N	31.5	31.7	27.96
O	13.1	13.0	15.97
Total	101.2	101.4	100.00

(1) Jajh deh Kot Lalu meteorite; by electron microprobe, average of several hundred determinations; corresponds to Si_{2.00}N_{2.23}O_{0.81}. (2) Hvittis meteorite; by electron microprobe. (3) Si₂N₂O.

Occurrence: A rare mineral embedded in enstatite in chondritic meteorites.

Association: Enstatite, nickel-iron, plagioclase, troilite, pigeonite, daubreelite, oldhamite, ferroan alabandite, graphite, tridymite (Jajh deh Kot Lalu meteorite).

Distribution: In the Jajh deh Kot Lalu, Hvittis, Ufana, Yilmia, and Pillistfer enstatite chondrite meteorites.

Name: For Silicon, Nitrogen, and Oxygen in the composition.

Type Material: American Museum of Natural History, New York, New York, USA, 3954.

References: (1) Andersen, C.A., K. Keil, and B. Mason (1964) Silicon oxynitride: a meteoric mineral. *Science*, 146, 256–257. (2) (1965) *Amer. Mineral.*, 50, 521 (abs. ref. 1). (3) Keil, K. and C.A. Andersen (1965) Occurrences of sinoite, Si₂N₂O, in meteorites. *Nature*, 203, 745. (4) Idrestedt, I. and C. Brosset (1964) Structure of Si₂N₂O. *Acta Chem. Scand.*, 18, 1879–1886.