

Crystal Data: Cubic. *Point Group:* $4/m\bar{3}2/m$. As minute euhedral crystals embedded in clausthalite.

Physical Properties: Hardness = ~ 2.5 VHN = n.d. D(meas.) = n.d. D(calc.) = 6.62

Optical Properties: Opaque. *Color:* Yellow. *Luster:* Metallic.

R: (400) 42.2, (420) 43.6, (440) 45.0, (460) 46.4, (480) 47.5, (500) 48.5, (520) 49.4, (540) 50.3, (560) 51.2, (580) 52.0, (600) 52.6, (620) 53.1, (640) 53.8, (660) 54.3, (680) 54.9, (700) 55.4

Cell Data: *Space Group:* $Fd\bar{3}m$ (probable). $a = 9.94$ $Z = 8$

X-ray Powder Pattern: Kuusamo, Finland.

2.48 (100), 1.755 (100), 3.00 (80), 2.87 (80), 1.905 (60), 5.75 (40), 3.52 (40)

Chemistry:

	(1)	(2)
Ni	29.5	35.80
Co	6.4	
Cu	trace	
Se	64.4	64.20
S	trace	
Total	100.3	100.00

(1) Kuusamo, Finland; by X-ray fluorescence analysis; corresponds to $(\text{Ni}_{2.47}\text{Co}_{0.53})_{\Sigma=3.00}\text{Se}_{4.00}$.

(2) Ni_3Se_4 .

Polymorphism & Series: Dimorphous with wilkmanite.

Mineral Group: Linnaeite group.

Occurrence: In uranium-bearing calcite veins in sills of albite diabase in schist (Kuusamo, Finland); in stibnite-quartz-barite veins in schists (Qiongmo deposit, China).

Association: Clausthalite, penroseite, sederholmite, wilkmanite, kullerudite (Kuusamo, Finland); gold, tiemannite, clausthalite, selenian famatinite, selenian gersdorffite, antimonelite, selenian stibnite, quartz, barite (Qiongmo deposit, China).

Distribution: From Kuusamo, northeastern Finland [TL]. At the Qiongmo gold deposit, western Qinling Mountains, Shaanxi Province, China.

Name: In honor of Otto Trüstedt (1866–1929), Finnish mining engineer, whose work on prospecting methods lead to the discovery of the Outokumpu ore deposit, Finland.

Type Material: National School of Mines, Paris, France.

References: (1) Vuorelainen, Y., A. Huhma, and A. Häkli (1964) Sederholmite, wilkmanite, kullerudite, mäkinenite, and trüstedtite, five new nickel selenide minerals. *Compt. Rendus Soc. Géol. Finlande*, 36, 113–125. (2) (1965) *Amer. Mineral.*, 50, 519–520 (abs. ref. 1).