

Crystal Data: Isometric. *Point Group:* $4/m\bar{3}2/m$. As grains, 30-100 μm .

Physical Properties: *Cleavage:* Perfect, probably on $\{0\bar{2}1\}$. *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = n.d. VHN = 700–1050 (50 g load). D(meas.) = n.d. D(calc.) = n.d.

Optical Properties: Opaque. *Color:* Tin white. *Streak:* n.d. *Luster:* Metallic.

Optical Class: Isotropic. Indistinguishable from skutterudite.

R_{air}: (400) 57.2, (420) 57.6, (440) 58.0, (460) 58.2, (470) 58.2, (480) 58.2, (500) 58.0, (520) 57.6, (540) 57.3, (546) 57.2, (560) 56.9, (580) 56.4, (589) 56.2, (600) 56.0, (620) 55.5, (640) 55.2, (650) 54.9, (660) 54.7, (680) 54.3, (700) 53.8

Cell Data: *Space Group:* $Im\bar{3}m$. $a = 8.17(1)$ $Z = 8$

X-ray Powder Pattern: Noril'sk ore field, Russia.

2.858 (100), 2.182 (90), 1.829 (70), 1.602 (70), 1.402 (60), 1.667 (50)

Chemistry:	(1)
Ni	0.05
Co	8.38
Fe	12.09
As	78.01
<u>S</u>	<u>1.34</u>
Total	99.87

(1) Noril'sk ore field, Russia; average of 4 electron microprobe analyses, corresponding to $(\text{Fe}_{0.600}\text{Co}_{0.394}\text{Ni}_{0.002})_{\Sigma=0.996}(\text{As}_{2.888}\text{S}_{0.116})_{\Sigma=3.004}$.

Occurrence: In hydrothermal dolomite-calcite veins and apophyllite-anhydrite-carbonate veins in a magmatic hydrothermal Co-Ni antimonide-arsenide deposit.

Association: Wurtzite, sphalerite, galena, chalcopyrite, pyrrhotite, cubanite, chalcocite.

Distribution: From the Noril'sk ore field, Russia.

Name: For the high iron content and relation to *skutterudite*.

Type Material: A. E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia (no. 3440/1).

References: (1) Spiridonov, E.M., Yu.D. Gritsenko, and I.M. Kulikova (2007) Ferroskutterudite $(\text{Fe,Co})\text{As}_3$: A new mineral species from the dolomite-calcite veins of the Noril'sk Ore Field. Doklady Earth Sciences, 417, 1278–1280. (2) (2008) Amer. Mineral., 93, 1687-1688 (abs. ref. 1).