

Crystal Data: Tetragonal. *Point Group:* $\bar{4}$. Rarely in crystals, rounded, may be hoppered; commonly in plates or tablets, or rods and needles, embedded in or along grain boundaries of kamacite in iron meteorites.

Physical Properties: *Cleavage:* Perfect on {001}; another, prismatic, on {010} or {110}, imperfect. *Tenacity:* Very brittle. Hardness = 6.5–7 D(meas.) = 7.0–7.3 D(calc.) = 7.12–7.44 Strongly magnetic.

Optical Properties: Opaque. *Color:* Silver-white to tin-white, tarnishing brass-yellow or brown. *Luster:* Brilliant metallic. *Optical Class:* Uniaxial.

R₁–R₂: n.d.

Cell Data: *Space Group:* $I\bar{4}$. $a = 9.013$ – 9.106 $c = 4.424$ – 4.464 $Z = 8$

X-ray Powder Pattern: Synthetic Fe₃P.

2.20 (100), 1.978 (100), 2.03 (80), 1.115 (80), 1.281 (65), 1.127 (65), 1.762 (55)

Chemistry:

	(1)	(2)	(3)	(4)
Fe	41.54	66.92	81.7	84.40
Co	0.80	0.62		
Ni	42.61	18.16		
P	15.05	14.88	18.1	15.60
Total	100.00	100.58	99.8	100.00

(1–2) Beaconsfield meteorite. (3) Red Sea; average of four analyses. (4) Fe₃P.

Occurrence: In nearly all iron meteorites, but lacking in those which are nickel deficient; rare in stony meteorites. Terrestrial occurrences are in reduced differentiated lenses in basalt (Disko Island, Greenland); as a hydrothermal metasomatic replacement of mineralized wood at a depth of 1400 m (Red Sea).

Association: Kamacite, tetrataenite (meteorites); iron, cohenite, troilite, wüstite (Disko Island, Greenland).

Distribution: Common in iron meteorites, as Magura, Bohumilitz, Beaconsfield, Canyon Diablo, Coahuila, many others. In Greenland, on Disko Island, near Kitdlît. At an unspecified location in the Red Sea.

Name: To honor Karl Franz Anton von Schreibers (1775–1852), of Vienna, Austria.

Type Material: Natural History Museum, Vienna, Austria (Magura meteorite).

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 124–126. (2) Borodaev, Y.S., Y.A. Bogdanov, and L.N. Vyal'sov (1982) New nickel-free variety of schreibersite Fe₂P. Zap. Vses. Mineral. Obshch., 111, 682–687 (in Russian). (3) Ulf-Møller, F. (1985) Solidification history of the Kitdlît lens: immiscible metal and sulphide liquids from a basaltic dyke on Disko, central west Greenland. J. Petrol., 26, 64–91. (4) Fasiska, E.J. and L. Zweil (1967) Thermal expansion of Fe₃P. Trans. A.I.M.E., 239, 924–925. (5) Doenitz, F.-D. (1970) Die Kristallstruktur des meteoritischen Rhabdits (Fe, Ni)₃P. Zeits. Krist., 131, 222–236 (in German with English abs.).