

Crystal Data: Hexagonal. *Point Group:* $\bar{3}2/m$. Crystals commonly tabular on {0001}, rhombohedral with {10 $\bar{1}$ 1}, {10 $\bar{1}$ 2}; rarely prismatic along [0001], with {11 $\bar{2}$ 0}, {0001}, to 1 cm; foliated, cleavable massive, to 10 cm; coarse- to fine-grained.

Physical Properties: *Cleavage:* {0001}, perfect. *Tenacity:* Flexible, in thin flakes. Hardness = 2.5 D(meas.) = 3.25(2) D(calc.) = 3.25

Optical Properties: Transparent in thin flakes, becoming opaque on exposure. *Color:* Colorless, pale green, pale blue, or pink; on exposure becomes bronze-brown then black; in transmitted light, colorless, flesh-red, amethystine blue-purple; brown when altered. *Luster:* Pearly on cleavages. *Optical Class:* Uniaxial (-); anomalously biaxial. *Pleochroism:* O = brown; E = lighter brown. *Absorption:* Strong; O > E. $\omega = 1.723$ $\epsilon = 1.681$ 2V(meas.) = Small.

Cell Data: *Space Group:* $P\bar{3}m1$. $a = 3.323\text{--}3.34$ $c = 4.68\text{--}4.738$ Z = 1

X-ray Powder Pattern: Långban, Sweden. 4.6 (10), 2.48 (3), 2.76 (2), 1.542 (2) 3.09 (1), 2.41 (1), 2.04 (1)

Chemistry:	(1)	(2)
FeO	0.4	
MnO	77.3	79.75
MgO	1.7	
CaO	trace	
H ₂ O	20.9	20.25
Total	100.3	100.00

(1) Långban, Sweden. (2) Mn(OH)₂.

Mineral Group: Brucite group.

Occurrence: A primary mineral in some volcanogenic massive sulfide deposits; a hydration product of manganosite, in turn metamorphosed from rhodochrosite.

Association: Hausmannite, rhodochrosite, manganosite, galaxite, tephroite, alabandite, lead, barite, calcite, dolomite.

Distribution: In Sweden, from Persberg, Långban, and Nordmark, Värmland; in the Sjö mine, near Grythyttan, Örebro. From Ljubija and Prijedor, Bosnia-Herzegovina. At Gonzen, near Sarganz, Graubünden, Switzerland. From Almylak, Uzbekistan. In the USA, at Franklin and Sterling Hill, Ogdensburg, Sussex Co., New Jersey, and in Alum Rock Park, near San Jose, Santa Clara Co., California. An ore in the Noda-Tamagawa mine, Iwate Prefecture; in the Kaso mine, Tochigi Prefecture; Hamayokokawa mine, Nagano Prefecture; the Taguchi mine, Aichi Prefecture; and the Ioi mine, Shiga Prefecture, Japan. From the N'Chwaning and Wessels mines, near Kuruman, Cape Province, South Africa. In the Kombat Cu-Pb-Ag mine, 49 km south of Tsumeb, Namibia.

Name: From the Greek for *fire* and *color*, as there is a color change on ignition.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 639–641. (2) Watanabe, T., A. Kato, and J. Ito (1960) The minerals of the Noda-Tamagawa mine, Iwaté Prefecture, Japan. II. Pyrochroite ore (Kimiman-kô) and its origin. Mineral. J. (Japan), 3, 30–41. (3) Welin, E. (1968) X-ray powder data for minerals from Långban and the related mineral deposits of Central Sweden. Arkiv Mineral. Geol., 4(30), 499–541.