

Trimerite



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Crystal Data: Monoclinic. *Point Group:* $2/m$. Crystals prismatic, pseudo-hexagonal by twinning, to 12 mm; as crystal intergrowths. *Twinning:* Triple twins with composition planes (110) and ($\bar{1}\bar{1}0$); in basal section, twin lamellae in three directions intersect at an angle of 120° .

Physical Properties: *Cleavage:* Distinct on {001}. *Fracture:* Conchoidal. *Tenacity:* Brittle. Hardness = 6–7 D(meas.) = 3.474 D(calc.) = 3.47

Optical Properties: Transparent to translucent. *Color:* Salmon-pink, pale yellowish red to nearly colorless; in thin section, colorless. *Luster:* Vitreous, brilliant.

Optical Class: Biaxial (-). *Orientation:* $X \perp \{001\}$. *Dispersion:* Perceptible. $\alpha = 1.715$
 $\beta = 1.720$ $\gamma = 1.725$ $2V(\text{meas.}) = 83^\circ$

Cell Data: *Space Group:* $P2_1/n$. $a = 8.098$ $b = 7.613$ $c = 14.065$ $\beta = 90^\circ$ $Z = 4$

X-ray Powder Pattern: Harstigen mine, Sweden. (ICDD 17-477).
2.764 (100), 3.56 (40), 2.229 (35), 2.332 (30), 1.420 (30), 2.053 (25), 1.784 (25)

Chemistry:	(1)	(2)
SiO ₂	39.77	39.77
FeO	3.87	
MnO	26.86	31.30
BeO	17.08	16.56
MgO	0.61	
CaO	12.44	12.37
Total	100.63	100.00

(1) Harstigen mine, Sweden. (2) $\text{CaMn}_2\text{Be}_3(\text{SiO}_4)_3$.

Occurrence: A rare mineral, probably formed during late-stage hydrothermal activity associated with contact metamorphism and metasomatism.

Association: Calcite, hematite.

Distribution: At the Harstigen mine, near Persberg, at Jakobsberg, and at Långban, Värmland, Sweden.

Name: From the Greek for *three parts*, in allusion to the trilling twinning and associated optical effects.

References: (1) Dana, E.S. (1892) Dana's system of mineralogy, (6th edition), 460.
(2) Vlasov, K.A., Ed. (1966) Mineralogy of rare elements, v. II, 417–419. (3) Aminoff, G. (1926) Zur Kristallographie des Trimerits. Geol. Fören. Förhandl. Stockholm, 48, 19–43 (in German).
(4) (1927) Amer. Mineral., 12, 381 (abs. ref. 3). (5) Klaska, K.H. and O. Jarchow (1977) Die Bestimmung der Kristallstruktur von Trimerit $\text{CaMn}_2(\text{BeSiO}_4)_3$ und das Trimeritgesetz der Verzwilligung. Zeits. Krist., 145, 46–65 (in German with English abs.).