

Inesite**Ca₂Mn₇²⁺Si₁₀O₂₈(OH)₂•5H₂O**

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Crystal Data: Triclinic. *Point Group:* $\bar{1}$. Crystals slender laths, may be chisel-shaped, to 7 cm, typically forming radiating fan-shaped clusters; fibrous, in veinlets, and massive.

Physical Properties: *Cleavage:* Perfect on {010}, good on {100}. *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = 5.5–6 D(meas.) = 3.03–3.04 D(calc.) = 3.03

Optical Properties: Transparent to translucent. *Color:* Rose-red, pink, orange-pink, orange-red-brown, deep wine-red; changes to ginger-brown on exposure. *Streak:* White. *Luster:* Vitreous to silky.

Optical Class: Biaxial (-). *Orientation:* $X \wedge c = 74^\circ$; $Y \wedge c = 32^\circ$; $Z \wedge c = 62^\circ$.

Dispersion: $r > v$, weak, distinct. $\alpha = 1.6178$ – 1.6183 $\beta = 1.6384$ – 1.6390 $\gamma = 1.6519$ – 1.6526 $2V(\text{meas.}) = 74^\circ$ – 77°

Cell Data: *Space Group:* $P\bar{1}$. $a = 8.889(2)$ $b = 9.247(2)$ $c = 11.975(3)$ $\alpha = 88.15(2)^\circ$ $\beta = 132.07(2)^\circ$ $\gamma = 96.64(2)^\circ$ $Z = 1$

X-ray Powder Pattern: Broken Hill, Australia.

9.16 (100), 2.92 (80), 2.84 (80), 2.73 (70), 2.19 (60), 4.59 (50), 4.01 (50)

Chemistry:

	(1)	(2)	(3)
SiO ₂	45.67	45.00	45.60
Al ₂ O ₃		0.32	
FeO	0.92	1.73	
MnO	35.10	37.48	37.69
MgO	0.86	0.47	
CaO	9.33	6.78	8.51
K ₂ O		0.01	
H ₂ O	8.66	8.27	8.20
Total	100.54	[100.06]	100.00

(1) Quinault, Washington, USA. (2) Equity mine, Colorado, USA; original total given as 100.10%. (3) Ca₂Mn₇Si₁₀O₂₈(OH)₂•5H₂O.

Occurrence: A late-stage hydrothermal mineral in manganese deposits.

Association: Rhodochrosite, bementite, hausmannite (Hale Creek mine, California, USA); datolite, pectolite, apophyllite, ruizite, orientite, quartz (Wessels mine, South Africa).

Distribution: In Germany, from Nanzenbach, near Dillenburg, Hesse. At Långban and in the Harstigen mine, near Persberg, Värmland, Sweden. From Săcărâmb (Nagyág), Romania. At Banská Štiavnica (Schemnitz), Slovakia. From the Wessels and N'Chwaning mines, near Kuruman, Cape Province, South Africa. In the USA, from Quinault, Grays Harbor Co., and in the Crescent mine, Olympic Peninsula, Clallam Co., Washington; in the Equity mine, near Creede, Mineral Co., Colorado; at the Hale Creek mine, near Red River, Trinity Co., and several other places in California. At Broken Hill, New South Wales, Australia. In Japan, at the Yugashima, Seikoshi, and Kawazu mines, Shizuoka Prefecture; the Innai mine, Akita Prefecture; the Kocho mine, Kochi Prefecture; and the Todoroki mine, Hokkaido.

Name: From the Greek for *flesh fibers*, in allusion to its color and structure.

References: (1) Dana, E.S. (1892) Dana's system of mineralogy, (6th edition), 564. (2) Richmond, W.E. (1942) Inesite, Mn₇Ca₂Si₁₀O₂₈(OH)₂•5H₂O. Amer. Mineral., 27, 563–568. (3) Ryall, W.R. and I.M. Threadgold (1968) Inesite from the Broken Hill lode, New South Wales, Australia. Amer. Mineral., 53, 1614–1634. (4) Che'ng Wan and S. Ghose (1978) Inesite, a hydrated calcium manganese silicate with five-tetrahedral-repeat double chains. Amer. Mineral., 63, 563–571. (5) Van Loenen, R.E. (1980) Inesite, a new U.S. occurrence near Creede, Mineral County, Colorado. Mineral. Record, 11, 35–36.

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