

Rosenhahnite



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Crystal Data: Triclinic. *Point Group:* $\bar{1}$. Crystals flat tabular to lathlike, well modified, flattened on {010}, elongated along [001], to 5 mm; as irregular clusters of crystals.

Physical Properties: *Cleavage:* Perfect on {001}, good on {100} and {010}.
Hardness = 4.5–5 D(meas.) = 2.89(2) D(calc.) = 2.895 Fluoresces light orangish pink under LW UV.

Optical Properties: Transparent to translucent. *Color:* Colorless to buff or light yellow.
Optical Class: Biaxial (-). $\alpha = 1.624\text{--}1.625$ $\beta = 1.640\text{--}1.641$ $\gamma = 1.646\text{--}1.647$
 $2V(\text{meas.}) = 64(4)^\circ$ $2V(\text{calc.}) = 64^\circ$

Cell Data: *Space Group:* $P\bar{1}$. $a = 6.955(2)$ $b = 9.484(2)$ $c = 6.812(2)$ $\alpha = 108.64(2)^\circ$
 $\beta = 94.84(2)^\circ$ $\gamma = 95.89(2)^\circ$ $Z = 2$

X-ray Powder Pattern: Russian River, California, USA.
3.20 (100), 2.965 (90), 3.043 (60), 2.775 (40), 3.36 (30), 2.659 (30), 1.886 (30)

Chemistry:	(1)	(2)	(1)	(2)	
SiO ₂	48.61	49.18	CaO	44.83	45.90
TiO ₂	0.00		SrO	0.03	
B ₂ O ₃	0.001		BaO	0.77	
Al ₂ O ₃	0.06		Na ₂ O	0.21	
FeO	0.18		K ₂ O	0.00	
MnO	0.006		H ₂ O		4.92
MgO	0.1		LOI	5.2	
			Total	[100.00]	100.00

(1) Russian River, California, USA; by D-C arc emission spectroscopy, recalculated to 100.00% from an original total of 96.86%. (2) Ca₃Si₃O₈(OH)₂.

Occurrence: In veins in brecciated, fine-grained, garnet- and diopside-bearing metasediments (Russian River, California, USA).

Association: Pectolite, xonotlite, datolite (Russian River, California, USA); prehnite, gyrolite, okenite, apophyllite (Durham, North Carolina, USA); prehnite, xonotlite, pectolite (Staré Ransko, Czech Republic).

Distribution: In the USA, from the Russian River, in Mendocino Co., about eight km north of Cloverdale, California, and in the Durham quarry, near Durham, Wake Co., North Carolina. From Engyouji, Kochi Prefecture, Japan. At Wairere, south of Te Kuiti, New Zealand. From Staré Ransko, Czech Republic. In Russia, from Asbest, Ural Mountains.

Name: For Leo Rosenhahn (1906–1991), amateur mineralogist of San Anselmo, California, USA, who discovered the mineral.

Type Material: California Division of Mines & Geology, San Francisco, California; National Museum of Natural History, Washington, D.C., USA, 120124, 134562; The Natural History Museum, London, England, 1976,392–393.

References: (1) Pabst, A., E.B. Gross, and J.T. Alfors (1967) Rosenhahnite, a new hydrous calcium silicate from Mendocino County, California. *Amer. Mineral.*, 52, 336–351. (2) Dunn, P.J. (1975) Rosenhahnite, a second occurrence with the zeolites of the Durham quarry, Durham, Wake County, North Carolina. *Mineral. Record*, 6, 300–301. (3) Wan, C., S. Ghose, and G.V. Gibbs (1977) Rosenhahnite, C₃Si₃O₈(OH)₂: crystal structure and the stereochemical configuration of the hydroxylated trisilicate group, [Si₃O₈(OH)₂]. *Amer. Mineral.*, 62, 503–512.

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