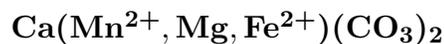


Kutnohorite



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Crystal Data: Hexagonal. *Point Group:* $\bar{3}$. In polycrystalline spherules, to 2 cm, aggregates, and cleavages.

Physical Properties: *Cleavage:* [On $\{10\bar{1}1\}$, perfect.] (by analogy to dolomite group).
Fracture: [Subconchoidal.] *Tenacity:* [Brittle.] *Hardness* = [3.5–4] *D(meas.)* = 3.12
D(calc.) = 3.15

Optical Properties: Translucent. *Color:* White, pale pink to bright pink.
Optical Class: Uniaxial (-). $\omega = 1.710\text{--}1.727$ $\epsilon = 1.519\text{--}1.535$

Cell Data: *Space Group:* $R\bar{3}$. $a = 4.8518(3)$ $c = 16.217(2)$ $Z = 3$

X-ray Powder Pattern: Franklin, New Jersey, USA.
2.935 (100), 1.814 (31), 1.837 (27), 3.753 (20), 2.225 (19), 2.043 (19), 2.437 (14)

Chemistry:	(1)	(2)	(3)
CO ₂	42.62	41.80	40.93
FeO	4.27	0.50	
MnO	23.76	28.31	32.99
MgO	5.18	2.21	
CaO	24.66	27.44	26.08
Total	100.49	100.26	100.00

(1) Kutná Hora, Czech Republic. (2) Franklin, New Jersey, USA. (3) CaMn(CO₃)₂.

Polymorphism & Series: Forms two series, with dolomite, and with ankerite.

Mineral Group: Dolomite group; ordered Ca:Mn \simeq 1:1, commonly with substitution by Mg and Fe²⁺.

Occurrence: Typically in deposits associated with manganeseiferous sediments.

Association: Rhodochrosite, aragonite, calcite.

Distribution: Analyzed material, shown to have the dolomite structure type, occurs at: Kutná Hora and Chvaletice, Czech Republic. At Långban, Värmland, Sweden. From near Levane, Tuscany, Italy. In the USA, at Franklin and Sterling Hill, Ogdensburg, Sussex Co., New Jersey; in the Sunnyside and Silver King mines, Silverton district, San Juan Co., Colorado; in the Longvale quarry, Laytonville, Mendocino Co., California; from Bald Knob, Alleghany Co., North Carolina. At Mont Saint-Hilaire, Quebec, Canada. In the Providencia district, Zacatecas, Mexico. Fine examples from the N'Chwaning mine, near Kuruman, South Africa. In Japan, in the Hoei tin mine, Oita Prefecture, from the Chichibu mine, Saitama Prefecture, and at the Ryujima mine, 15 km southwest of Matsumo, Nagano Prefecture. From Broken Hill, New South Wales, Australia.

Name: For its first described occurrence at Kutná Hora, Czech Republic [the original label translated as kutnohorite].

Type Material: Harvard University, Cambridge, Massachusetts, USA, 109033, 111690, 85670.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 217. (2) Frondel, C. and L.H. Bauer (1955) Kutnohorite [kutnohorite]: a manganese dolomite. *Amer. Mineral.*, 40, 748–760. (3) Farkas, L., B.H. Bolzenius, W. Schäfer, and G. Will (1988) The crystal structure of kutnohorite CaMn(CO₃)₂. *Neues Jahrb. Mineral., Monatsh.*, 539–546.