

Crystal Data: Hexagonal. *Point Group:* $\bar{3}$. Crystals typically combinations of $\{10\bar{1}1\}$ and $\{11\bar{2}0\}$, tabular on $\{0001\}$, many minor forms, may exhibit curved faces, to 20 cm; saddle-shaped aggregates, columnar, stalactitic, granular, massive. *Twinning:* With $\{0001\}$, $\{10\bar{1}0\}$, or $\{11\bar{2}0\}$ as twin plane, common as simple contact twins and in combinations; lamellar on $\{02\bar{2}1\}$.

Physical Properties: *Cleavage:* On $\{10\bar{1}1\}$, perfect; on $\{02\bar{2}1\}$, a parting. *Fracture:* Subconchoidal. *Tenacity:* Brittle. Hardness = 3.5–4 D(meas.) = 2.86 D(calc.) = [2.876] May fluoresce white to pink under UV; triboluminescent.

Optical Properties: Transparent to translucent. *Color:* Colorless, white, yellow, brown, pale pink; colorless in transmitted light. *Streak:* White. *Luster:* Vitreous to pearly. *Optical Class:* Uniaxial (-), anomalously biaxial. *Dispersion:* Very strong. $\omega = 1.679$ $\epsilon = 1.500$ $2V(\text{meas.}) = \text{Small}$.

Cell Data: *Space Group:* $R\bar{3}$. $a = 4.812(1)$ $c = 16.020(3)$ $Z = 3$

X-ray Powder Pattern: Haley, Ontario, Canada. 2.886 (100), 2.192 (30), 1.783 (30), 1.804 (20), 2.015 (15), 1.389 (15), 2.670 (10)

Chemistry:	(1)	(2)	(1)	(2)	
CO ₂	47.22	47.73	MgO	21.12	21.86
SiO ₂	0.12		CaO	31.27	30.41
FeO	0.22		H ₂ O	0.02	
MnO			Total	99.97	100.00

(1) Haley, Ontario, Canada. (2) CaMg(CO₃)₂.

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

Mineral Group: Dolomite group.

Occurrence: Formed by diagenesis or hydrothermal metasomatism of limestone; a primary phase in hypersaline sedimentary environments; a major component of some contact metamorphic rocks and marbles; a gangue in hydrothermal veins; in carbonatites and ultramafic rocks.

Association: Fluorite, barite, calcite, siderite, quartz, metal sulfides (hydrothermal); calcite, celestine, gypsum, quartz (sedimentary); talc, serpentine, magnesite, calcite, magnetite, diopside, tremolite, forsterite, wollastonite (metamorphic); calcite, ankerite, siderite, apatite (carbonatites).

Distribution: A major rock-forming mineral, abundant worldwide with numerous commercial uses. Some localities for fine examples include: in Italy, from Traversella and Brosso, Piedmont. Exceptional crystals from Eugui, Navarra Province, Spain. At Trieben and Hall, Tirol, Austria. From Freiberg and Schneeberg, Saxony, Germany. At Lenggenbach, Binntal, Switzerland. From Trepča, Serbia, Yugoslavia. At Frizington, Cumbria, England. In the Vuoriyarvi carbonatite complex, Kola Peninsula, Russia. Fine crystals from Brumado, Bahia, and in the Morro Velho gold mine, Nova Lima, Minas Gerais, Brazil. At Naica, Chihuahua, Mexico. In the USA, in New York, from Lockport, Niagara Co., eastward to Walworth, Wayne Co.; at Stony Point, Alexander Co., North Carolina; in the Mississippi Valley region, in the Tri-State district, at Joplin, Jasper Co., Missouri; Galena, Cherokee Co., Kansas; and Picher, Ottawa Co., Oklahoma.

Name: Honors Dieudonne (Déodat) Sylvain Guy Tancrède de Gratet de Dolomieu (1750–1801), French geologist and naturalist, who contributed to early descriptions of the species in dolostone.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 208–217. (2) Chang, L.L.Y., R.A. Howie, and J. Zussman (1996) Rock-forming minerals, (2nd edition), v. 5B, non-silicates, 189–218. (3) Effenberger, H., K. Mereiter, and J. Zemmann (1981) Crystal structure refinements of magnesite, calcite, rhodochrosite, siderite, smithsonite, and dolomite, with discussion of some aspects of the stereochemistry of calcite type carbonates. Zeits. Krist., 156, 233–243. (4) Howie, R.A. and F.M. Broadhurst (1958) X-ray data for dolomite and ankerite, Amer. Mineral., 43, 1210–1214.

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