

Crystal Data: Cubic. *Point Group:* $4/m\bar{3}2/m$. As small octahedra, less commonly cubo-octahedra or dodecahedra, may be clustered; granular, massive.

Physical Properties: *Cleavage:* {001}, perfect; on {111}, good; may exhibit parting on {011}. Hardness = 5.5 $D(\text{meas.}) = 3.56\text{--}3.68$ $D(\text{calc.}) = 3.58$ Slightly soluble in H_2O when powdered, to give an alkaline reaction.

Optical Properties: Transparent. *Color:* Colorless, grayish white, yellow, brownish yellow; may be green or black with inclusions; colorless in transmitted light. *Streak:* White.

Luster: Vitreous.

Optical Class: Isotropic. $n = 1.735\text{--}1.745$

Cell Data: *Space Group:* $Fm\bar{3}m$. $a = 4.203\text{--}4.212$ $Z = 4$

X-ray Powder Pattern: Synthetic.

2.106 (100), 1.489 (52), 0.9419 (17), 0.8600 (15), 1.216 (12), 2.431 (10), 1.0533 (5)

Chemistry:	(1)
	FeO 5.97
	MgO 93.86
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	Total 99.83

(1) Monte Somma, Italy.

Mineral Group: Periclase group.

Occurrence: A product of the high-temperature metamorphism of magnesian limestones and dolostone.

Association: Forsterite, magnesite (Monte Somma, Italy); brucite, hydromagnesite, ellestadite (Crestmore quarry, California, USA); fluorellestadite, lime, periclase, magnesioferrite, hematite, srebrodolskite, anhydrite (Kopeysk, Russia).

Distribution: On Monte Somma, Campania, Italy. At Predazzo, Tirol, Austria. From Carlingford, Co. Louth, Ireland. At Broadford, Isle of Skye, and Camas Mòr, Isle of Muck, Scotland. From León, Spain. At the Bellerberg volcano, two km north of Mayen, Eifel district, Germany. From Nordmark and Långban, Värmland, Sweden. In mines around Kopeysk, Chelyabinsk coal basin, Southern Ural Mountains, Russia. In the USA, at the Crestmore quarry, Riverside Co., California; from Tombstone, Cochise Co., Arizona; in the Gabbs mine, Gabbs district, Nye Co., Nevada. In Canada, at Oka, Quebec. From ten km west of Cowell, Eyre Peninsula, South Australia.

Name: From the Greek for *to break around*, in allusion to the perfect cubic cleavage.

Type Material: Natural History Museum, Paris, France, 96.1201.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 499–500. (2) Deer, W.A., R.A. Howie, and J. Zussman (1962) Rock-forming minerals, v. 5, non-silicates, 1–4. (3) Hazen, R.M. (1976) Effects of temperature and pressure on the cell dimension and X-ray temperature factors of periclase. *Amer. Mineral.*, 61, 266–271. (4) (1953) NBS Circ. 539, 1, 37.