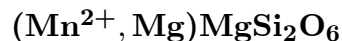


# Donpeacorite



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**Crystal Data:** Orthorhombic. *Point Group:*  $2/m\ 2/m\ 2/m$ . Interlocking grains up to 3 mm.

**Physical Properties:** *Cleavage:* Perfect on {110}. Hardness = 5–6  $D(\text{meas.}) = 3.36(1)$   
 $D(\text{calc.}) = 3.403(2)$

**Optical Properties:** Semitransparent. *Color:* Pale buff, yellow-orange; faint pink in thin section. *Luster:* Vitreous.

*Optical Class:* Biaxial (-). *Orientation:*  $Z = c$ .  $\alpha = 1.677(2)$   $\beta = 1.684(2)$   $\gamma = 1.692(2)$   
 $2V(\text{meas.}) = 88(5)^\circ$

**Cell Data:** *Space Group:*  $Pbca$ .  $a = 18.384(11)$   $b = 8.879(7)$   $c = 5.226(3)$   $Z = 8$

**X-ray Powder Pattern:** Balmat, New York, USA.

3.18 (100), 2.896 (60), 1.495 (11), 1.479 (11), 4.03 (10), 3.09 (10), 2.961 (10)

## Chemistry:

	(1)
SiO <sub>2</sub>	55.12
Al <sub>2</sub> O <sub>3</sub>	0.23
FeO	0.14
MnO	18.48
MgO	26.31
CaO	0.69
Na <sub>2</sub> O	0.03
Total	[101.00]

(1) Balmat, New York, USA; by electron microprobe, original total given as 100.00%; corresponding to  $(\text{Mg}_{1.41}\text{Mn}_{0.56}\text{Ca}_{0.03})_{\Sigma=2.00}(\text{Si}_{1.98}\text{Al}_{0.01})_{\Sigma=1.99}\text{O}_{5.99}$ .

**Polymorphism & Series:** Dimorphous with kanoite.

**Mineral Group:** Pyroxene group.

**Occurrence:** In manganese-rich siliceous marbles metamorphosed to the upper amphibolite facies.

**Association:** Tirodite, tourmaline, ferrian braunite, manganoan dolomite, hedyphane, anhydrite.

**Distribution:** In the Balmat No. 4 mine, Balmat, St. Lawrence Co., New York, USA.

**Name:** To honor Dr. Donald R. Peacor (1937– ), University of Michigan, Ann Arbor, Michigan, USA.

**Type Material:** Harvard University, Cambridge, Massachusetts, 124237; National Museum of Natural History, Washington, D.C., USA, 159862.

**References:** (1) Petersen, E.U., L.M. Anovitz, and E.J. Essene (1984) Donpeacorite,  $(\text{Mn}, \text{Mg})\text{MgSi}_2\text{O}_6$ , a new orthopyroxene and its proposed phase relations in the system  $\text{MnSiO}_3 - \text{MgSiO}_3 - \text{FeSiO}_3$ . *Amer. Mineral.*, 69, 472–480.