

Kovdorskite**Mg₂(PO₄)(OH)·3H₂O**

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Crystal Data: Monoclinic. *Point Group:* 2/m. Rough prismatic crystals, to 2 cm, with measurable {110}, {010}, {580}, {001}, {101}, {111}; granular.

Physical Properties: *Fracture:* Conchoidal to uneven. Hardness = 4 VHN = 420–450
D(meas.) = 2.28 D(calc.) = 2.30

Optical Properties: Transparent to opaque. *Color:* Colorless, pale rose, bright pink, pale blue, may be blue with pink terminations; colorless to pale rose in transmitted light.

Optical Class: Biaxial (-). *Orientation:* $Z \wedge c = 1^\circ\text{--}3^\circ$. *Dispersion:* $r > v$, very weak.

$\alpha = 1.528(2)$ $\beta = 1.542$ $\gamma = 1.549$ $2V(\text{meas.}) = 80^\circ\text{--}82^\circ$

Cell Data: *Space Group:* $P2_1/c$. $a = 4.74(2)$ $b = 12.90(4)$ $c = 10.35(4)$
 $\beta = 102^\circ00(30)'$ $Z = 4$

X-ray Powder Pattern: Kovdor massif, Russia.

7.96 (100), 2.258 (64), 2.821 (59), 5.44 (46), 4.32 (36), 1.884 (27), 2.658 (25)

Chemistry:

	(1)	(2)
P ₂ O ₅	32.95	33.07
MgO	37.34	37.55
H ₂ O	29.47	29.38
Total	99.76	100.00

(1) Kovdor massif, Russia. (2) Mg₂(PO₄)(OH)·3H₂O.

Occurrence: A very rare mineral in an explosive breccia pipe cutting an iron ore deposit in a carbonatized ultramafic-alkalic intrusive.

Association: Collinsite, magnesite, dolomite, hydrotalcite, apatite, magnetite, forsterite.

Distribution: From the Kovdor massif, Kola Peninsula, Russia.

Name: For the Kovdor massif, Russia, in which it was first found to occur.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 81408.

References: (1) Kapustin, Y.L., A.V. Bykova, and Z.V. Pudovkina (1980) Kovdorskite – a new mineral. *Zap. Vses. Mineral. Obshch.*, 109, 341–347 (in Russian). (2) (1981) *Amer. Mineral.*, 66, 437 (abs. ref. 1). (3) Ovchinnikov, V.E., L.P. Solov'eva, Z.V. Pudovkina, Y.L. Kapustin, and N.V. Belov (1980) The crystal structure of kovdorskite Mg₂(PO₄)(OH)·3H₂O. *Doklady Acad. Nauk SSSR*, 255, 351–354 (in Russian). (4) Ponomareva, E.V. and N.I. Krasnova (1990) New data on kovdorskite – Mg₂(PO₄)(OH)·3H₂O. *Zap. Vses. Mineral. Obshch.*, 119(6), 92–100 (in Russian with English abs.).