

Népouite



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Crystal Data: Orthorhombic, probable. *Point Group:* n.d. As crude pseudo-hexagonal vermiform crystals, to 1 cm; massive.

Physical Properties: Hardness = 2.5 $D(\text{meas.}) = 3.24$ $D(\text{calc.}) = [3.07\text{--}3.40]$

Optical Properties: Semitransparent. *Color:* Intense dark green to dull green. *Optical Class:* Biaxial (-). *Pleochroism:* Weak; $X = \text{dark green}$; $Z = \text{yellow-green}$. $\alpha = 1.622$ $\beta = 1.576\text{--}1.579$ $\gamma = 1.645$ $2V(\text{meas.}) = \text{n.d.}$

Cell Data: *Space Group:* n.d. $a = 5.27\text{--}5.31$ $b = 9.14\text{--}9.20$ $c = 7.24\text{--}7.28$ $Z = [2]$

X-ray Powder Pattern: Letovice, Czech Republic.
7.31 (100), 3.63 (90), 2.501 (70), 2.894 (60), 1.530 (60), 4.55 (50b), 2.321 (40)

Chemistry:	(1)	(2)	(3)
SiO ₂	32.84	37.0	31.60
Al ₂ O ₃	0.97	0.21	
Fe ₂ O ₃		0.22	
FeO	1.90		
NiO	49.05	44.9	58.92
MgO	3.64	5.95	
CaO	0.50	0.22	
Na ₂ O		0.10	
K ₂ O		0.07	
H ₂ O ⁺	9.64	11.9	9.48
Total	98.54	100.6	100.00

(1) Népouï, New Caledonia. (2) Nakety, New Caledonia. (3) Ni₃Si₂O₅(OH)₄.

Polymorphism & Series: Dimorphous with pecoraite; forms a series with lizardite.

Mineral Group: Kaolinite-serpentine group.

Occurrence: An alteration product of nickel-rich ultramafic rocks.

Association: Serpentine, chlorite, hydrous nickel silicates, iron oxides.

Distribution: From the Reis II mine, Népouï; near Nakety, and at Thio, New Caledonia. In the 132 North nickel mine, Widgiemooltha district, Western Australia. From Pavlos, Greece. In the Tyulenevsk Formation, Ural Mountains, Russia. At Letovice, Czech Republic. In the Kalkar quarry, Santa Cruz Co., California, USA.

Name: After the locality, Népouï, New Caledonia.

Type Material: n.d.

References: (1) Glasser, M.E. (1907) Sur une espèce minérale nouvelle, la népouïte, silicate hydraté de nickel et de magnésie. *Bull. Soc. fr. Minéral.*, 30, 17–28 (in French). (2) Maksimovic, Z. (1973) Lizardite–nepouïte isomorphous series. *Zap. Vses. Mineral. Obshch.*, 102, 143–149 (in Russian). (3) (1973) *Chem. Abs.*, 79, 33542 (abs. ref. 2). (4) Brindley, G.W. and H.-M. Wan (1975) Compositions, structures, and thermal behavior of nickel-containing minerals in the lizardite–nepouïte series. *Amer. Mineral.*, 60, 863–871. (5) Bayliss, P. (1981) Unit cell data of serpentine group minerals. *Mineral. Mag.*, 44, 153–156. (6) Milton, C., E.J. Dwornik, and R.B. Finkelman (1983) Pecoraite, the nickel analogue of chrysotile, Ni₃Si₂O₅(OH)₄ from Missouri. *Neues Jahrb. Mineral., Monatsh.*, 513–523.

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