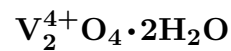


# Lenoblite



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**Crystal Data:** Orthorhombic. *Point Group:*  $2/m\ 2/m\ 2/m$ . Microcrystalline, in crusts, thin veinlets, and massive.

**Physical Properties:** Hardness = n.d.  $D(\text{meas.}) = \text{n.d.}$   $D(\text{calc.}) = [3.14]$

**Optical Properties:** Semitransparent. *Color:* Azure, darkens to greenish on exposure to air. *Optical Class:* Biaxial. *Orientation:*  $X = a; Z = b.$   $\alpha = 1.749$   $\beta = \text{n.d.}$   $\gamma = 1.848$   
 $2V(\text{meas.}) = 0^\circ\text{--}10^\circ$

**Cell Data:** *Space Group:*  $P2_12_12_1.$   $a = 2.995$   $b = 4.820$   $c = 14.800$   $Z = [2]$

**X-ray Powder Pattern:** Mounana mine, Gabon.

4.59 (FFF), 3.722 (FF), 2.528 (F), 7.46 (mF), 4.95 (f), 2.802 (f), 1.820 (f)

**Chemistry:**

	(1)	(2)	(3)
$\text{V}_2\text{O}_5$	10.27		
$\text{V}_2\text{O}_4$	69.45	76.44	82.16
$\text{Al}_2\text{O}_3$	1.16		
$\text{Fe}_2\text{O}_3$	0.35		
$\text{H}_2\text{O}$	17.93	19.20	17.84
insol.	0.50	3.20	
Total	99.66	98.84	100.00

(1) Mounana mine, Gabon; after correction for oxidation of vanadium and deduction of insoluble quartz, corresponds to  $\text{V}_{2.00}^{4+}\text{O}_{4.12} \cdot 2.09\text{H}_2\text{O}$ . (2) Kyzylkum Desert, Uzbekistan; after deduction of insoluble, corresponds to  $\text{V}_{1.93}\text{O}_4 \cdot 2.22\text{H}_2\text{O}$ . (3)  $\text{V}_2\text{O}_4 \cdot 2\text{H}_2\text{O}$ .

**Occurrence:** In a zone of reduction below the oxidized zone of a uranium deposit (Mounana mine, Gabon).

**Association:** Duttonite (Mounana mine, Gabon).

**Distribution:** From the Mounana uranium mine, Franceville, Gabon. From Kokpatas, in the Kyzylkum Desert, Uzbekistan.

**Name:** For André Lenoble (?–1968), formerly Head of the Laboratory of Mineralogy and Chief of Exploration, French Atomic Energy Commission.

**Type Material:** National School of Mines, Paris, France; The Natural History Museum, London, England, 1970,150; National Museum of Natural History, Washington, D.C., USA, 145134.

**References:** (1) Cesbron, F. and H. Vachey (1970) La lenoblite, nouvel oxyde hydraté de vanadium (IV). *Bull. Soc. fr. Minéral.*, 93, 235–241 (in French with English abs.). (2) (1971) *Amer. Mineral.*, 56, 635–636 (abs. ref. 1).