

Crystal Data: Monoclinic. *Point Group:* 2. Crystals flattened on {001}, may be elongated along [010] or equant, showing {001}, {100}, {101}, {110}, {011}, to 0.1 mm, isolated or in aggregates. *Twinning:* Rare on {001}.

Physical Properties: *Cleavage:* Perfect on {001}. *Fracture:* Splintery. *Tenacity:* Brittle. Hardness = n.d. $D(\text{meas.}) = 3.38(2)$ $D(\text{calc.}) = 3.39$

Optical Properties: Transparent. *Color:* Dark green, bluish green to emerald-green. *Streak:* Green. *Luster:* Vitreous.

Optical Class: Biaxial (+). *Pleochroism:* $X = \text{dark blue-green}$; $Y = \text{blue-green}$; $Z = \text{pale green to colorless}$. *Orientation:* $Y = b$; $Z = c$; $X \wedge a = 5^\circ$. *Dispersion:* $r < v$, strong. $\alpha = 1.700(2)$ $\beta = 1.715(2)$ $\gamma = 1.738(2)$ $2V(\text{meas.}) = 81.2^\circ$ $2V(\text{calc.}) = 79(1)^\circ$

Cell Data: *Space Group:* $P2_1$. $a = 5.596(2)$ $b = 6.079(2)$ $c = 6.925(3)$ $\beta = 94.67(2)^\circ$ $Z = 2$

X-ray Powder Pattern: Roua mines, France.

6.91 (100), 3.457 (90), 2.669 (80), 2.462 (80), 2.250 (50), 2.078 (50), 2.154 (40)

Chemistry:

	(1)	(2)
N_2O_5	21.64	22.49
CuO	65.5	66.26
H_2O	11.9	11.25
Total	99.04	100.00

(1) Roua mines, France; by electron microprobe, N_2O_5 and H_2O by CHN analyzer; corresponds to $\text{Cu}_{1.99}(\text{NO}_3)_{0.97}(\text{OH})_{3.19}$. (2) $\text{Cu}_2(\text{NO}_3)(\text{OH})_3$.

Polymorphism & Series: Dimorphous with gerhardtite.

Occurrence: Rare in cavities in cuprite from a hydrothermal copper deposit, the nitrate perhaps supplied from guano or organic matter in host-rock pelites (Roua mines, France).

Association: Cuprite, copper, silver, algodonite, domeykite, connellite, olivenite, malachite, theoparacelsite, gerhardtite (Roua mines, France).

Distribution: From the Roua copper mines, about 50 km north of Nice, Alpes Maritimes, France. At Sterling Hill, Ogdensburg, Sussex Co., New Jersey, USA.

Name: For the Roua copper mines, France, from which the mineral was first described.

Type Material: Natural History Museum, Geneva, Switzerland.

References: (1) Sarp, H., R. Cerný, and L. Guenee (2001) Rouaite, $\text{Cu}_2(\text{NO}_3)(\text{OH})_3$, un nouveau minéral: sa description et sa structure cristalline (Alpes-Maritimes, France). *Riviera Scientif.*, 85, 3–12 (in French with English abs.). (2) (2002) *Amer. Mineral.*, 87, 998 (abs. ref. 1).