

Crystal Data: Triclinic, pseudomonoclinic. *Point Group:* $\bar{1}$. Needlelike crystals, elongated along [010], flattened || {001}, showing {100}, {201}, {401}, and {412}, to 5 mm. *Twining:* May be twinned on {001}.

Physical Properties: Hardness = n.d. $D(\text{meas.}) = 5.3$ $D(\text{calc.}) = 5.49$

Optical Properties: Transparent. *Color:* Colorless to white. *Optical Class:* Biaxial (-). *Orientation:* $X \wedge c \simeq 12^\circ$; $Y \wedge a \simeq 8^\circ$; $Z \wedge b \simeq 0^\circ\text{--}14^\circ$. $\alpha = \text{n.d.}$
 $\beta = 2.18\text{--}2.23$ $\gamma = 2.23\text{--}2.26$ $2V(\text{meas.}) = \text{n.d.}$

Cell Data: *Space Group:* $P\bar{1}$. $a = 18.92$ $b = 4.03$ $c = 10.31$ $\alpha = \sim 90^\circ$ $\beta = \sim 110^\circ$
 $\gamma = \sim 90^\circ$ $Z = [2]$

X-ray Powder Pattern: Cetine mine, Italy.
 3.190 (100), 2.677 (60), 3.041 (50), 2.822 (50), 2.598 (30), 2.544 (30), 1.807 (30)

Chemistry:	(1)	(2)
Sb ₂ O ₃	87.90	87.54
SbCl ₃	12.10	12.46
H ₂ O	0.00	
Total	100.00	100.00

(1) Cetine mine, Italy; by TGA. (2) Sb₈O₁₁Cl₂.

Occurrence: An oxidation product of stibnite in an antimony deposit in highly silicified evaporites.

Association: Stibnite, stibiconite, cetineite, peretaite, klebelsbergite, quartz.

Distribution: In the Cetine mine, 20 km southwest of Siena, Tuscany, Italy.

Name: To honor Ettore Onorato (1899–1971), Italian mineralogist.

Type Material: University of Rome, Rome, Italy, 24308.

References: (1) Belluomini, M.F., M. Fornaseri, and M. Nicoletti (1968) Onoratoite, a new antimony oxychloride from Cetine di Cotorniano, Rosia (Siena, Italy). *Mineral. Mag.*, 36, 1037–1044. (2) (1969) *Amer. Mineral.*, 54, 1219 (abs. ref. 1). (3) Menchetti, S., C. Sabelli, and R. Trosti-Feroni (1984) The structures of onoratoite, Sb₈O₁₁Cl₂ and Sb₈O₁₁Cl₂•6H₂O. *Acta Cryst.*, C40, 1506–1510.