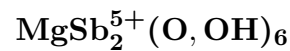


# Byströmite



©2001-2005 Mineral Data Publishing, version 1

**Crystal Data:** Tetragonal. *Point Group:*  $4/m\ 2/m\ 2/m$ . In porous massive aggregates of submicroscopic particles; a few grains show square or rectangular outlines under the electron microscope.

**Physical Properties:** Hardness =  $\sim 7$  D(meas.) = 5.5(1); 5.7 when corrected for stibiconite impurity. D(calc.) = 5.80

**Optical Properties:** Transparent to translucent. *Color:* Blue-gray to yellowish brown when in admixture with stibiconite; colorless in transmitted light. *Streak:* Pale gray.

*Optical Class:* Uniaxial.  $n = 1.855\text{--}1.915$

**Cell Data:** *Space Group:*  $P4_2/mnm$ .  $a = 4.68$   $c = 9.21$   $Z = 2$

**X-ray Powder Pattern:** El Antimonio, Mexico.

3.32 (100), 2.57 (90), 1.73 (90), 4.19 (70), 2.34 (50), 4.63 (40), 2.96 (40)

## Chemistry:

	(1)	(2)
$\text{Al}_2\text{O}_3$	0.08	
$\text{Fe}_2\text{O}_3$	0.03	
$\text{Sb}_2\text{O}_5$	89.05	90.37
MgO	6.65	7.43
CaO	1.44	
$\text{H}_2\text{O}^+$	2.60	2.20
$\text{H}_2\text{O}^-$	0.17	
insol.	0.25	
Total	100.27	[100.00]

(1) La Fortuna mine, Sonora, Mexico;  $\text{H}_2\text{O}^+$  by the Penfield method; known to be slightly contaminated with stibiconite, insoluble is quartz. (2) Do.; corrected for stibiconite impurity; then corresponding to  $\text{Mg}_{0.65}\text{Sb}_{1.97}[\text{O}_{5.14}(\text{OH})_{0.86}]_{\Sigma=6.00}$ .

**Mineral Group:** Ferrotapiolite group.

**Occurrence:** In quartz veins in an oxidized antimony deposit.

**Association:** Stibiconite, quartz.

**Distribution:** In the La Fortuna and San Jose mines, El Antimonio, 27 km southwest of Agua Prieta, Sonora, Mexico.

**Name:** For Dr. Anders Byström (1916–1956), Swedish crystal chemist, who made a structural analysis of the synthetic compound.

**Type Material:** The Natural History Museum, London, England, 1951,300; National Museum of Natural History, Washington, D.C., USA, 106194.

**References:** (1) Mason, B. and C.J. Vitaliano (1952) Bystromite, magnesium antimonate, a new mineral. *Amer. Mineral.*, 37, 53–57. (2) Byström, A., B. Hök, and B. Mason (1941) The crystal structure of zinc metantimonate and similar compounds. *Arkiv Kemi, Mineral., Geol.*, 15B, 1–8.