## Aminoffite $Ca_3Be_2Si_3O_{10}(OH)_2$

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**Crystal Data:** Tetragonal. *Point Group:* $4/m$. As small, euhedral, pyramidal crystals, to 1 mm. *Twinning:* Commonly twinned, polysynthetically on {001}.

**Physical Properties:** *Cleavage:* Poor on {001}. *Fracture:* Conchoidal. *Tenacity:* Brittle. Hardness = 5.5–6 D(meas.) = 2.94 D(calc.) = 2.86 Strongly piezoelectric.

**Optical Properties:** Transparent. *Color:* Colorless to light yellowish. *Luster:* Vitreous. *Optical Class:* Uniaxial (–); may be abnormally biaxial. $\omega = 1.647$ $\epsilon = 1.637$

**Cell Data:** *Space Group:* $P4_2/n$. $a = 9.865(2)$ $c = 9.930(2)$ $Z = 4$

**X-ray Powder Pattern:** Långban, Sweden.
2.614 (100), 2.84 (90), 4.02 (80), 2.141 (80), 6.97 (70), 4.40 (70), 3.48 (70)

**Chemistry:**

| | (1) | (2) |
|---|---|---|
| $SiO_2$ | 42.49 | 43.28 |
| $Al_2O_3$ | 4.41 | |
| $Fe_2O_3$ | 0.31 | |
| MnO | 0.19 | |
| BeO | 6.20 | 12.01 |
| CaO | 40.27 | 40.39 |
| $H_2O$ | 6.45 | 4.32 |
| Total | [100.32] | 100.00 |

(1) Långban, Sweden; original total given as 100.33%. (2) $Ca_3Be_2Si_3O_{10}(OH)_2$.

**Occurrence:** In cavities in massive magnetite (Långban, Sweden); in fluorite veins at the contact between marbles and "hornblende" granites associated with hastingsite nepheline syenites (Dugdinsk massif, Russia); in fluorite veins in tinguaite and nephelinite dikes (Bayankolsk dike field, Russia).

**Association:** Magnetite, goethite (Långban, Sweden); fluorite (Russia).

**Distribution:** From Långban, Värmland, Sweden. In Russia, found in the Bayankolsk dike field, Tuva, and in the Dugdinsk massif; also in the Lake Baikal area, eastern Siberia. From Hall's Grampians, eight km northwest of Emmaville, New South Wales, Australia.

**Name:** To honor Dr. Gregori Aminoff (1883–1947), Swedish mineralogist and expert on Långban mineralogy, associated with the Riksmuseum, Stockholm, Sweden.

**Type Material:** Harvard University, Cambridge, Massachusetts, 94627, 106916, 106917; National Museum of Natural History, Washington, D.C., USA, 137291, R7823; The Natural History Museum, London, England, 1984,423.

**References:** (1) Hurlbut, C.S. (1937) Aminoffite, a new mineral from Långban, Sweden. Geol. Fören. Förhandl. Stockholm, 59, 290–292. (2) (1938) Amer. Mineral., 23, 293 (abs. ref. 1). (3) Mandarino, J.A. (1964) X-ray powder data for aminoffite. Amer. Mineral., 49, 212–214. (4) Moore, P.B. (1968) Relation of the manganese-calcium silicates, gageite and harstigite: a correction. Amer. Mineral., 53, 1418–1420. (5) Coda, A., G. Rossi, and L. Ungaretti (1967) The crystal structure of aminoffite. Atti Rend. Accad. Lincei, 43(3–4), 225–232. (6) (1968) Chem. Abs., 69, 71315 (abs. ref. 5). (7) (1967) Str. Rep., 32, 466–467 (abs. ref. 5).

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