

Crystal Data: Monoclinic. *Point Group:* $2/m$. As prismatic crystals, flattened on {100}, commonly morphologically complex, to 12 cm.

Physical Properties: *Cleavage:* Perfect on {010}, imperfect on {110} and {001}. *Fracture:* Conchoidal. *Tenacity:* Brittle. Hardness = 7.5 VHN = 1310 D(meas.) = 2.99–3.10 D(calc.) = 3.115

Optical Properties: Transparent to translucent. *Color:* Colorless, white, pale green to deep yellowish green, greenish blue, pale blue to deep blue, rarely mottled; colorless to pale blue or pale green in thin section. *Streak:* White. *Luster:* Vitreous, somewhat pearly on cleavages. *Optical Class:* Biaxial (+). *Pleochroism:* May be marked in shades of deep blue. *Orientation:* $Z \wedge c = 41^\circ$. *Dispersion:* $r > v$, distinct. $\alpha = 1.651\text{--}1.653$ $\beta = 1.655\text{--}1.657$ $\gamma = 1.669\text{--}1.675$ $2V(\text{meas.}) = \sim 50^\circ$ $2V(\text{calc.}) = 46^\circ$

Cell Data: *Space Group:* $P2_1/a$. $a = 4.763(5)$ $b = 14.29(2)$ $c = 4.618(5)$
 $\beta = 100^\circ 15(5)'$ $Z = 4$

X-ray Powder Pattern: Villa Rica, Brazil.
7.146 (100), 3.219 (50), 3.836 (35), 2.773 (35), 2.444 (35), 2.543 (25), 1.991 (18)

Chemistry:	(1)	(2)
SiO ₂	42.05	41.60
Al ₂ O ₃	33.97	34.76
Fe ₂ O ₃	0.12	
FeO		0.28
BeO	17.51	16.95
Na ₂ O		0.13
K ₂ O		0.04
H ₂ O	6.35	5.95
Total	[100.00]	99.71

(1) Otrré, Belgium; recalculated to 100.00% after deduction of 3.5% quartz; corresponds to Be_{1.00}Al_{0.95}Si_{1.00}O₄(OH)_{1.01}. (2) Santo do Encoberto, Brazil; by electron microprobe; corresponds to (Be_{0.99}Fe_{0.01}Na_{0.01})_{Σ=1.01}Al_{1.00}Si_{1.01}O₄(OH)_{0.96}.

Occurrence: The product of decomposition of beryl in pegmatites, and in low-temperature alpine veins.

Association: Feldspar, quartz, topaz, beryl, mica, calcite, ankerite, chlorite.

Distribution: Fine crystals occur from: the Sanarka River, Orenburg district, and the Kamenka River, Southern Ural Mountains, Russia. At Epprechtstein, Bavaria, Germany. In the Muiâne pegmatite, Alto Ligonha district, Mozambique. Found near Mikese Station, Morogoro district, Tanzania. From Karoi, Miami district, Zimbabwe. In Brazil, in Minas Gerais, around Villa Rica, Boa Vista, Santa do Encoberto, Dom Bosco, Ouro Prêto; Mãe dos Homens, in Capelinha; and many other localities. Large crystals from the Gachalá mine, Las Cruces, near Chivor, Colombia. A number of other minor localities are known.

Name: From the Greek for *easily* and *fracture* regarding its perfect cleavage.

Type Material: Natural History Museum, Paris, France, Haüy 3303.

References: (1) Dana, E.S. (1892) Dana's system of mineralogy, (6th edition), 508–509. (2) Biscoe, J. and B.E. Warren (1930) The structure of euclase HBeAlSiO₅. Zeits. Krist., 86, 292–297. (3) Mrose, M.E. and O. von Knorring (1959) The mineralogy of väyrynenite, (Mn, Fe)Be(PO₄)(OH). Zeits. Krist., 112, 275–288. (4) Graziani, G. and G. Guidi (1980) Euclase from Santa do Encoberto, Minas Gerais, Brazil. Amer. Mineral., 65, 183–187. (5) Anderson, S. (1980) Euclase. J. Gemmology, 17, 18–29. (6) Hanson, A. (1985) Découverte d'euclase dans un filon de quartz à Otrré, massif de Stavelot, Belgique. Bull. Minéral., 108, 139–143 (in French with English abs.).

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