

Crystal Data: Triclinic. *Point Group:* $\bar{1}$. Crystals short prismatic, to 0.5 mm, dominated by {101} and pinacoids $\parallel$ to [001]. *Twinning:* Not uncommon, with {100} as the composition plane.

Physical Properties: *Cleavage:* Distinct on {101} and {010}, indistinct on {100}. *Tenacity:* Brittle. Hardness = 7.5 D(meas.) = 2.84(2) D(calc.) = 2.81 Strongly cathodoluminescent in bright azure-blue.

Optical Properties: Transparent. *Color:* Colorless, white, pink, brown. *Luster:* Vitreous. *Optical Class:* Biaxial (-). *Orientation:* $X \wedge c = 7^\circ$. *Dispersion:* $r > v$, very weak. $\alpha = 1.575(2)$ $\beta = 1.590(2)$ $\gamma = 1.601(2)$ $2V(\text{meas.}) = 72(2)^\circ$

Cell Data: *Space Group:* $P\bar{1}$. $a = 7.371(3)$ $b = 7.730(3)$ $c = 6.912(2)$ $\alpha = 106^\circ 14(2)'$ $\beta = 111^\circ 27(2)'$ $\gamma = 100^\circ 0(2)'$ $Z = 1$

X-ray Powder Pattern: Ascension Island.

4.20 (vs), 3.58 (vs), 3.08 (vs), 5.90 (s), 4.31 (s), 6.54 (m), 3.36 (m)

Chemistry:	(1)	(2)	(1)	(2)
SiO ₂	61.85	63.07	MgO	0.10
TiO ₂		1.23	CaO	0.02
ZrO ₂	21.70	19.37	BaO	0.11
Al ₂ O ₃		0.06	Na ₂ O	1.75
Fe ₂ O ₃	0.37		K ₂ O	14.60
FeO		0.28	H ₂ O	0.64
MnO		0.02	P ₂ O ₅	0.04
			Total	100.91
				99.94

(1) Ascension Island; corresponds to (K_{1.79}Na_{0.32}) $_{\Sigma=2.11}$ Zr_{1.01}Si_{5.95}O₁₅. (2) Dalsfjorden, Norway; by electron microprobe, average of ten analyses; corresponds to (K_{1.90}Fe_{0.02}Mg_{0.02}Na_{0.01}) $_{\Sigma=1.95}$ (Zr_{0.90}Ti_{0.09}Al_{0.01}) $_{\Sigma=1.00}$ Si_{6.01}O₁₅.

Occurrence: A rare accessory in ejected blocks of alkalic granite in trachytic and basaltic tuffs (Ascension Island); in syenite (Serra de Agua de Pau, Azores); in lamproite (Cancarix, Spain).

Association: Quartz, aegirine, arfvedsonite, aenigmatite (Ascension Island); sanidine, arfvedsonite, quartz, aegirine, fayalite, astrophyllite, pyrrhotite (Serra de Agua de Pau, Azores); pyrophanite, elpidite, monazite, janhaugite, kupletskite (Gjerdningen, Norway).

Distribution: On Green Mountain and Middleton Peak, Ascension Island, southern Atlantic Ocean. From Serra de Agua de Pau, São Miguel, Azores. Near Cancarix, Albacete Province, Spain. At Dalsfjorden, Sunnfjord, and Gjerdningen, near Oslo, Norway. In the Straumsvola complex, Dronning Maud Land, Antarctica. From the Murun massif, southwest of Olekminsk, and other less-well-defined localities in the Aldan Shield, Yakutia, Russia.

Name: For Reginald Aldworth Daly (1871–1957), Professor of Geology, Harvard University, Cambridge, Massachusetts, USA.

Type Material: The Natural History Museum, London, England, 64685; National Museum of Natural History, Washington, D.C., USA, 113106.

References: (1) Van Tassel, R. and M.H. Hey (1952) Dalyite, a new potassium zirconium silicate from Ascension Island, Atlantic. Mineral. Mag., 29, 850–857. (2) (1952) Amer. Mineral., 37, 1071 (abs. ref. 1). (3) Fleet, S.G. (1965) The crystal structure of dalyite. Zeits. Krist., 121, 349–368. (4) Robins, B., H. Furnes, and P. Ryan (1983) A new occurrence of dalyite. Mineral. Mag., 47, 93–94.

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