Natrofairchildite $Na_2Ca(CO_3)_2$

Crystal Data: Hexagonal (by analogy to fairchildite). *Point Group:* $6/m\ 2/m\ 2/m$. Crystals are flattened, to 2 mm, and as fan-shaped aggregates. *Twinning:* Polysynthetic, observed along {0001} cleavage.

Physical Properties: *Cleavage:* On {0001}. Hardness = 2.5 D(meas.) = n.d. D(calc.) = 2.14 Weak orange fluorescence.

Optical Properties: Semitransparent. *Color:* White. *Luster:* Vitreous. *Optical Class:* Uniaxial (–), may be weakly birefringent. $\omega = 1.525$ $\epsilon = 1.459$

Cell Data: *Space Group:* $P6_3/mmc$ (ICDD 25-804). $a = 5.291$ $c = 13.218$ Z = 2

X-ray Powder Pattern: Vuoriyarvi complex, Kola Peninsula, Russia. 3.18 (10), 2.64 (9), 6.71 (6), 2.20 (6), 1.891 (6), 2.67 (4), 4.50 (3)

Chemistry:

	(1)	(2)
CO_2	41.93	42.71
CaO	25.61	27.21
SrO	0.85	
BaO	0.44	
Na_2O	29.46	30.08
K_2O	1.35	
Total	99.64	100.00

(1) Vuoriyarvi complex, Kola Peninsula, Russia; corresponds to $(Na_{1.99}K_{0.06})_{\Sigma=2.05}(Ca_{0.96}Sr_{0.02}Ba_{0.01})_{\Sigma=0.99}(CO_3)_{2.00}$. (2) $Na_2Ca(CO_3)_2$.

Polymorphism & Series: Trimorphous with nyerereite and zemkorite.

Occurrence: In a carbonatite complex, at depths below 70 m.

Association: Calcite, burbankite.

Distribution: From the Vuoriyarvi carbonatite complex, Kola Peninsula, Russia.

Name: As the sodium, *natrium*, analog of *fairchildite*.

Type Material: n.d.

References: (1) Kapustin, Y.L. (1971) Mineralogy of carbonatites [sodium-fairchildite]. Izdat. "Nauka", Moscow, 181–183 (in Russian). (2) (1975) Amer. Mineral., 60, 488 (abs. ref. 1).