Natalyite $Na(V^{3+},Cr^{3+})Si_2O_6$

Crystal Data: Monoclinic. *Point Group:* $2/m$. As grains, to 1 mm, commonly acicular to asbestiform ‖ [001], showing {110}, and {100} or {010}.

Physical Properties: *Cleavage:* {110}, distinct; parting on {001}. Hardness = ~7 VHN = 1013–1079 (50 g load). D(meas.) = n.d. D(calc.) = 3.55

Optical Properties: Translucent. *Color:* Bright green with a tinge of yellow; in transmitted light, emerald-green to yellow. *Streak:* Green. *Luster:* Vitreous to silky. *Optical Class:* Biaxial (–). *Pleochroism:* Strong; X = greenish yellow to yellow; $Y = Z$ = emerald-green. $\alpha = 1.741(2)$ $\beta = 1.762(3)$ $\gamma = 1.762(3)$ 2V(meas.) = 8°–12°

Cell Data: *Space Group:* $C2/c$. $a = 9.58(1)$ $b = 8.72(1)$ $c = 5.27(1)$ $\beta = 107.16°$ Z = 4

X-ray Powder Pattern: Slyudyanka complex, Russia.
2.96 (10), 2.52 (10), 2.87 (8), 1.391 (8b), 2.46 (7), 6.24 (6), 4.36 (6)

Chemistry:

	(1)
SiO_2	53.15
TiO_2	0.11
Al_2O_3	0.75
V_2O_3	17.97
Cr_2O_3	12.23
MgO	1.28
CaO	1.78
Na_2O	12.65
Total	99.92

(1) Slyudyanka complex, Russia; by electron microprobe, average of five analyses; corresponds to $(Na_{0.92}Ca_{0.07})_{\Sigma=0.99}(V_{0.54}Cr_{0.36}Mg_{0.07}Al_{0.03})_{\Sigma=1.00}Si_{1.99}O_6$.

Mineral Group: Pyroxene group.

Occurrence: In Cr, V-rich diopside-quartz rocks that are part of a Precambrian metamorphic complex (Slyudyanka complex, Russia).

Association: Eskolaite–karelianite, uvarovite–goldmanite, chromian vanadian tourmaline, pyrite, apatite, diopside (Slyudyanka complex, Russia).

Distribution: From the Pereval marble quarry, near Slyudyanka, Lake Baikal, Siberia, Russia. On the Zaonezhki Peninsula, southern Karelia.

Name: In honor of the geologist Nataliya Vasil'evna Frolova (1907–1960), geologist, Irkutsk University, Irkutsk, Russia.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia.

References: (1) Reznitskii, L.Z., E.V. Skliarov, and Z.F. Ushchapovskaya (1985) Natalyite $Na(V,Cr)Si_2O_6$ – a new chromium-vanadium pyroxene from Slyudyanka. Zap. Vses. Mineral. Obshch., 114, 630–635 (in Russian). (2) (1987) Amer. Mineral., 72, 223–224 (abs. ref. 1).