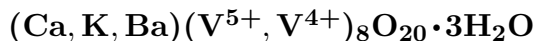


**Straczekite**

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**Crystal Data:** Monoclinic. *Point Group:*  $2/m$ ,  $2$ , or  $m$ . Lathlike fibers, elongated along [010], to 0.5 mm, in radiating groups and foliated masses. *Twinning:* On {001}, possible, observed by X-ray diffraction.

**Physical Properties:** *Cleavage:* {100}, perfect. *Hardness =* Very soft.  $D(\text{meas.}) = 3.09\text{--}3.29$   $D(\text{calc.}) = 3.21$

**Optical Properties:** Opaque, thin flakes are translucent. *Color:* Greenish black; yellowish green in transmitted light. *Streak:* Greenish black. *Luster:* Greasy.

*Optical Class:* Biaxial (–) (probable). *Pleochroism:* Slight; apple-green to olive-green.

*Orientation:* Extinction parallel to length.  $n = [1.99]$  (by the rule of Gladstone and Dale).

$2V(\text{meas.}) = \text{Large}$ .

**Cell Data:** *Space Group:*  $C2/m$ ,  $C2$ , or  $Cm$ .  $a = 11.679(2)$   $b = 3.6608(4)$   $c = 10.636(2)$   
 $\beta = 100.53(4)^\circ$   $Z = [1]$

**X-ray Powder Pattern:** Wilson Springs, Arkansas, USA.

3.486 (100), 10.449 (50), 1.8306 (50), 1.9437 (15), 3.255 (10), 2.492 (10), 1.8030 (10)

**Chemistry:**

	(1)
V <sub>2</sub> O <sub>5</sub>	66.4
V <sub>2</sub> O <sub>4</sub>	15.3
Fe <sub>2</sub> O <sub>3</sub>	0.9
CaO	2.5
BaO	5.5
Na <sub>2</sub> O	0.4
K <sub>2</sub> O	1.8
H <sub>2</sub> O	7.2
<hr/>	
Total	100.0

(1) Wilson Springs, Arkansas, USA; corresponds to  $(\text{Ca}_{0.39}\text{K}_{0.33}\text{Ba}_{0.31}\text{Na}_{0.11})_{\Sigma=1.14}(\text{V}_{6.31}^{5+}\text{V}_{1.59}^{4+}\text{Fe}_{0.10}^{3+})_{\Sigma=8.00}\text{O}_{20.02} \cdot 2.9\text{H}_2\text{O}$ . (2) Monument No. 2 mine, Arizona, USA; analysis not given, corresponds to  $(\text{Ca}_{0.58}\text{K}_{0.11}\text{Na}_{0.06}\text{Fe}_{0.04})_{\Sigma=0.79}(\text{V}_{7.87}\text{Fe}_{0.13})_{\Sigma=8.00}\text{O}_{20} \cdot 3.17\text{H}_2\text{O}$ .

**Occurrence:** An uncommon secondary mineral, in seams in argillaceous gangue, in vanadium-rich alkalic igneous and metamorphosed sedimentary rocks (Wilson Springs, Arkansas, USA).

**Association:** Hewettite, duttonite, fervanite, schoderite, metaschoderite (Wilson Springs, Arkansas, USA).

**Distribution:** In the USA, in the Wilson Springs (Potash Sulphur Springs) mine, Garland Co., Arkansas, and from the Monument No. 2 mine, Monument Valley, Apache Co., Arizona.

**Name:** To honor John A. Straczek, Chief Geologist, Union Carbide Corporation.

**Type Material:** n.d.

**References:** (1) Evans, H.T., Jr., G. Nord, J. Marinenko, and C. Milton (1984) Straczekite, a new calcium barium potassium vanadate mineral from Wilson Springs, Arkansas. *Mineral. Mag.*, 48, 289–293. (2) (1985) *Amer. Mineral.*, 70, 877 (abs. ref. 1). (3) Evans, H.T., Jr. and J.M. Hughes (1990) Crystal chemistry of the natural vanadium bronzes. *Amer. Mineral.*, 75, 508–521, esp. 515–516.