

Julienite

Na₂Co(SCN)₄·8H₂O

©2001-2005 Mineral Data Publishing, version 1

Crystal Data: Monoclinic, pseudotetragonal. *Point Group:* 2/m. Minute needles, elongated along [001], aggregated in crusts. *Twinning:* On {110} as twin plane, or around [001].

Physical Properties: *Cleavage:* || elongation. Hardness = n.d. D(meas.) = 1.648 D(calc.) = 1.61 Readily soluble in H₂O, forming a pink solution.

Optical Properties: Translucent. *Color:* Blue. *Streak:* Blue. *Optical Class:* Uniaxial (+). $\omega = 1.556$ $\epsilon = 1.645$

Cell Data: *Space Group:* P2₁/n (synthetic). $a = 18.941(2)$ $b = 19.209(2)$ $c = 5.460(1)$
 $\beta = 91.64(1)^\circ$ $Z = 4$

X-ray Powder Pattern: Chamibumba, Congo.

0.935 (100), 0.903 (100), 3.55 (85), 3.23 (85), 1.375 (85), 1.220 (85), 6.50 (58)

Chemistry:

	(1)	(2)
Na	10.35	9.55
Co	12.5	12.24
SCN	47.6	48.27
H ₂ O	29.87	29.94
Total	100.32	100.00

(1) Chamibumba, Congo. (2) Na₂Co(SCN)₄·8H₂O.

Occurrence: A very rare incrustation on talc schist.

Association: Cobaltian "wad".

Distribution: From Chamibumba, near Kambove, Katanga Province, Congo (Shaba Province, Zaire).

Name: Honors Henry Julien (?–1920), Belgian scientist who discovered the mineral.

Type Material: n.d.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 1106–1107. (2) Mereiter, K. and A. Preisinger (1982) The structure of sodium tetrakisothiocyanatocobaltate(II) octahydrate Na₂[Co(NCS)₄]·8H₂O. Acta Cryst., 38, 1084–1088. (3) Schoep, A. and V. Billiet (1935) Contribution à l'étude du réseau de la julienite [Na₂Co(CSN)₄·8H₂O]. Zeits. Krist., 91, 229–234 (in French).