

Sveite**KAl₇(NO₃)₄Cl₂(OH)₁₆•8H₂O**

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Crystal Data: Monoclinic (probable). *Point Group:* n.d. As lumpy aggregates of contorted submicroscopic flakes.

Physical Properties: *Cleavage:* Probably on {001}, perfect. Hardness = ~1
D(meas.) = 2.0 D(calc.) = 2.185 Gelatinous when moist; highly hygroscopic, forming a residue of Al(OH)₃.

Optical Properties: Translucent. *Color:* White; colorless in transmitted light.
Optical Class: Biaxial (+). $\alpha = 1.503(2)$ $\beta = \text{n.d.}$ $\gamma = 1.535(2)$ 2V(meas.) = Small.

Cell Data: *Space Group:* n.d. $a = 10.89$ $b = 13.04$ $c = 30.71$ $\beta = 92.10^\circ$ $Z = 6$

X-ray Powder Pattern: Autana Cave, Venezuela.
10.20 (100), 2.443 (55), 3.692 (40), 5.995 (35), 6.174 (20), 4.209 (20), 2.752 (20)

Chemistry:	(1)	(2)
SO ₃	2.65	
P ₂ O ₅	0.17	
N ₂ O ₅	18.26	22.43
Al ₂ O ₃	37.12	37.05
K ₂ O	5.18	4.89
(NH ₄) ₂ O	< 0.02	
Cl	8.50	7.36
H ₂ O	29.25	29.93
-O = Cl ₂	1.92	1.66
C	< 0.30	
insol.	0.10	
Total	99.31	100.00

(1) Autana Cave, Venezuela; K₂O by flame photometry, (NH₄)₂O by distillation, and C, H, N, S by gas chromatography, insoluble is quartz; corresponds to K_{1.07}Al_{7.07}(NO₃)_{3.28}(SO₄)_{0.32}(PO₄)_{0.02}Cl_{2.32}(OH)_{15.96}•7.77H₂O. (2) KAl₇(NO₃)₄Cl₂(OH)₁₆•8H₂O.

Occurrence: As crusts and efflorescences precipitated from solutions trickling onto cave roofs and walls.

Association: Quartz.

Distribution: From the Autana Cave, Amazonas Territory, Venezuela. On a rock overhang at an unspecified locality in the northeastern San Joaquin Valley, California, USA.

Name: From the first letters of the Sociedad Venezolana de Espeleología, whose members collected the original material studied.

Type Material: University of Central Venezuela, Caracas, Venezuela; The Natural History Museum, London, England, 1985,348; National Museum of Natural History, Washington, D.C., USA, 162532.

References: (1) Martini, J.E.J. (1980) Sveite, a new mineral from Autana Cave, Territorio Federal Amazonas, Venezuela. *Trans. Geol. Soc. S. Afr.*, 83, 239–241. (2) (1982) *Amer. Mineral.*, 67, 1076 (abs. ref. 1). (3) Graham, R.C., J.O. Ervin, and W.M. Graham (1988) The occurrence and properties of sveite in the northeastern San Joaquin Valley, California. *Program and Abstracts, Annual Clay Minerals Conference*, 25, 50.