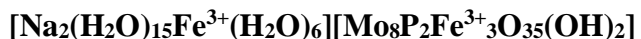


Mendozavilite-NaFe**Crystal Data:** Monoclinic. *Point Group:* 2/m. As crystals, to 20 μm, in masses.**Physical Properties:** Hardness = 1.5 D(meas.) = 3.85 D(calc.) = 2.948**Optical Properties:** Semitransparent. *Color:* Empire yellow to orange. *Streak:* Bright yellow. *Luster:* Vitreous.*Optical Class:* Biaxial (+). *Pleochroism:* In pale yellows. *Dispersion:* r > v, very strong.*Absorption:* Z > Y > X. α = 1.762 β = 1.763 γ = 1.766 2V(meas.) = 5°-15° 2V(calc.) = 60.1°**Cell Data:** *Space Group:* C2/m. a = 18.82(12) b = 11.03(14) c = 15.18(12) β = 129.8(3)° Z = 2**X-ray Powder Pattern:** Cumobabi deposit, Mexico.

8.77 (10), 9.46 (8), 3.676 (5), 1.820 (5), 3.118 (4), 1.552 (4), 11.56 (3)

Chemistry:

	(1)	(2)		(1)	(2)
Na ₂ O	1.78	1.04	SiO ₂	0.15	0.01
K ₂ O	2.54	0.23	P ₂ O ₅	6.52	6.18
CaO	3.83	0.05	MoO ₃	52.81	55.25
CuO	0.12	0.03	Cl	0.14	
MgO	0.13	1.01	- O = Cl	0.04	
Fe ₂ O ₃	12.73	17.28	H ₂ O	[18.93]	[18.90]
Al ₂ O ₃	0.36	0.02	Total	100.00	100.00

(1) Cumobabi deposit, Mexico; normalized electron microprobe analysis, H₂O calculated, corresponds to [(Na_{1.22}K_{1.14}Ca_{1.01})_{Σ=3.37}(H₂O)_{13.63}(Fe³⁺_{0.53}Ca_{0.44}Cu²⁺_{0.03})_{Σ=1.00}(H₂O)₆][Mo_{7.77}(P_{1.95}Si_{0.05})_{Σ=2.00}(Fe³⁺_{2.85}Al_{0.15})_{Σ=3.00}O_{31.62}(OH)_{5.29}Cl_{0.09}]. (2) Lomas Bayas mine, Antofagasta Province, Chile; normalized electron microprobe analysis, H₂O calculated, corresponds to [(Na_{0.70}Mg_{0.52}Fe³⁺_{0.51}K_{0.10}Ca_{0.02}Cu²⁺_{0.01}Al_{0.01})_{Σ=1.87}(H₂O)_{15.13}Fe³⁺(H₂O)₆][Mo₈P_{1.81}Fe³⁺₃O_{35.52}(OH)_{1.48}].

Mineral Group: Betpakdalite supergroup, mendozavilite group.**Occurrence:** In the oxidized zone of some molybdenum-bearing hydrothermal mineral deposits.**Association:** Quartz, paramendozavilite (Cumobabi deposit, Mexico).**Distribution:** From the San Judas mine, Cumobabi molybdenum deposit, southwest of Cumpas, Sonora, Mexico. At the Lomas Bayas mine, 93 km east northeast of Antofagasta, Antofagasta Province, Chile.**Name:** Honors Heriberto *Mendoza Avila* (b. 1924), Phelps Dodge exploration geologist, who found the first specimen. Two suffixes correspond to the dominant cations in the two different types of non-framework cation sites.**Type Material:** The Natural History Museum, London, England, 1984,475.**References:** (1) Williams, S. A. (1986) Mendozavilite and paramendozavilite, two new minerals from Cumobabi, Sonora. *Boletín de Mineralogía*, 2(1), 13-19. (2) (1988) *Amer. Mineral.*, 73, 193 (abs. ref. 1). (3) Kampf, A.R., S.J. Mills, M.S. Rumsey, M. Dini, W.D. Birch, J. Spratt, J.J. Pluth, I.M. Steele, R.A. Jenkins, and W.W. Pinch (2012) The heteropolymolybdate family: structural relations, nomenclature scheme and new species. *Mineral. Mag.*, 76(5), 1175-1207.