

Crystal Data: Monoclinic. *Point Group:* 2/m. As bladed crystals, to 0.4 mm, elongated on [010] and flattened by {001}. Other prominent form are {100}, {001}, and {111}. Crystals form spherical radial divergent (hedgehog-like) aggregates.

Physical Properties: *Cleavage:* Good on {001}. *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = 2 D(meas.) = n.d. D(calc.) = 3.116 Bright yellow-green fluorescence under LW and SW UV.

Optical Properties: Transparent. *Color:* Pale yellow. *Streak:* Yellowish white. *Luster:* Vitreous. *Optical Class:* Biaxial (-). $\alpha = 1.515$ $\beta = 1.540$ $\gamma = 1.545$ $2V(\text{meas.}) = 48(2)^\circ$ $2V(\text{calc.}) = 47.6^\circ$ *Pleochroism:* None. *Orientation:* $X = b$, $Y \approx a$, $Z \approx c$.

Cell Data: *Space Group:* C2/c. $a = 21.1507(6)$ $b = 5.3469(12)$ $c = 34.6711(9)$
 $\beta = 104.913(3)^\circ$ $Z = 8$

X-ray Powder Pattern: Blue Lizard U mine, San Juan County, Utah, USA.
5.16 (100), 10.31 (60), 17.08 (52), 3.186 (36), 3.353 (28), 3.484 (27), 4.238 (23)

Chemistry:	(1)	(2)
Na ₂ O	24.15	24.46
SO ₃	35.84	36.07
UO ₃	32.89	32.31
Cl	3.76	4.00
H ₂ O	[4.05]	4.06
-OH=Cl	0.85	0.90
Total	99.94	100.00

(1) Blue Lizard U mine, Utah, USA; average of 5 electron microprobe analyses, H₂O by structural analysis, presence of SO₄, H₂O, UO₂ confirmed by Raman spectroscopy; corresponding to Na_{6.94}(U_{1.02}O₂)(SO₄)_{4.00}Cl_{0.94}O_{0.06}(H₂O)₂. (2) Na₇(UO₂)(SO₄)₄Cl(H₂O)₂.

Occurrence: An oxidation product as efflorescence on tunnel walls in sulfide-bearing sandstone in an abandoned underground Colorado Plateau-type uranium mine.

Association: Chalcantite, copiapite, ferrinatrite, gypsum, kröhnkite, johannite, and a few new unnamed uranyl sulfates of Na and Mg.

Distribution: From the Blue Lizard U mine, Red Canyon, White Canyon district, San Juan County, Utah, USA.

Name: For the mine that produced the first specimens.

Type Material: Natural History Museum of Los Angeles County, California, USA (# 64060, 64061, 64062, 64063).

References: (1) Plášil, J., A.R. Kampf, A.V. Kasatkin, and J. Marty (2014) Bluelizardite, Na₇(UO₂)(SO₄)₄Cl(H₂O)₂, a new uranyl sulfate mineral from the Blue Lizard mine, San Juan County, Utah, USA. *Journal of Geosciences*, 59, 145-158. (2) (2014) *Amer. Mineral.*, 99, 1806-1807 (abs. ref. 1).