

Bojarite **$\text{Cu}_3(\text{N}_3\text{C}_2\text{H}_2)_3(\text{OH})\text{Cl}_2 \cdot 6\text{H}_2\text{O}$**

Crystal Data: Cubic. *Point Group:* $4/m\bar{3}2/m$. As fine-grained porous aggregates to 5 mm, typically in interrupted earthy crusts composed of pseudomorphs after chanabayaite aggregates and coating amphibole gabbro or granular aggregates of salammoniac, halite, and nitratine.

Physical Properties: *Cleavage:* n.d. *Tenacity:* Brittle. *Fracture:* n.d. Hardness = 2
D(meas.) = n.d. *D(calc.)* = 2.057
 Insoluble in water, dissolves in dilute hydrochloric acid without evolution of gas.

Optical Properties: Opaque. *Color:* Blue. *Streak:* Blue. *Luster:* Dull (aggregates).
Optical Class: Isotropic. $n = 1.635(2)$ Non-pleochroic.

Cell Data: *Space Group:* $Fd\bar{3}c$. $a = 24.8047(5)$ $Z = 32$

X-Ray Diffraction Pattern: Pabellón de Pica Mountain, Iquique Province, Tarapacá Region, Chile.
 7.19 (100), 4.143 (40), 6.23 (35), 8.83 (31), 5.077 (28), 4.194 (28), 2.865 (28)

Chemistry:	(1)	(2)
Na	0.22	
Mg	0.74	
Fe	0.99	
Cu	29.73	32.26
Cl	13.62	12.00
N	20.4	21.34
C	11.6	12.20
H	3.3	3.24
O	[19.93]	18.96
Total	100.53	100.00

(1) Pabellón de Pica Mountain, Iquique Province, Tarapacá Region, Chile; average electron microprobe analysis supplemented by IR and Raman spectroscopy; H, C and N by gas chromatography, O calculated from stoichiometry; corresponds to $(\text{Cu}_{2.68}\text{Mg}_{0.17}\text{Fe}_{0.10}\text{Na}_{0.05})_{\Sigma=3}(\text{N}_3\text{C}_2\text{H}_2)_{2.755}[(\text{OH})][\text{Cl}_{2.19}(\text{H}_2\text{O})_{3.77}(\text{OH})_{0.04}]_{\Sigma=6} \cdot 2.3\text{H}_2\text{O}$. (2) $\text{Cu}_3(\text{N}_3\text{C}_2\text{H}_2)_3(\text{OH})\text{Cl}_2 \cdot 6\text{H}_2\text{O}$.

Occurrence: Formed in a guano deposit on chalcopyrite-bearing gabbro in a desert.

Association: Salammoniac, halite, nitratine, belloite.

Distribution: Northern slope of Pabellón de Pica Mountain, 1.5 km south of Chanabaya village, Iquique Province, Tarapacá Region, Chile.

Name: Honors Austrian mineralogist Dr Hans-Peter *Bojar* (b. 1967), Department of Mineralogy, Universalmuseum Joanneum, Graz, Austria, for his contributions to Earth Science including the descriptions of several new mineral species.

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (5574/1).

References: (1) Chukanov, N.V., G. Möhn, N.V. Zubkova, D.A. Ksenofontov, I.V. Pekov, A.A. Agakhanov, S.N. Britvin, and J. Desor (2020) Bojarite, $\text{Cu}_3(\text{N}_3\text{C}_2\text{H}_2)_3(\text{OH})\text{Cl}_2 \cdot 6\text{H}_2\text{O}$, a new mineral species with a microporous metal-organic framework from the guano deposit at Pabellón de Pica, Iquique Province, Chile. *Mineral. Mag.*, 84, 921-927.