

Crystal Data: Hexagonal. *Point Group:* $\bar{3} 2/m$. As steep rhombohedral crystals, displaying {10 $\bar{1}$ 1} and {0001}, to 1 mm, and as parallel stacked aggregates. *Twinning:* V-shaped twins by reflection on {10 $\bar{1}$ $\bar{2}$ }.

Physical Properties: *Cleavage:* Perfect on {10 $\bar{1}$ 1}. *Fracture:* Conchoidal. *Tenacity:* Brittle. Hardness = ~3 D(meas.) = 3.64(2) D(calc.) = 3.709 Soluble in dilute HCl.

Optical Properties: Transparent. *Color:* Medium to deep green. *Streak:* Light green.

Luster: Vitreous.

Optical Class: Uniaxial (-). ω and $\epsilon > 1.8$ *Pleochroism:* *O* = bluish green, *E* = slightly yellowish green. *Absorption:* *O* > *E*.

Cell Data: *Space Group:* $R\bar{3} m$. $a = 6.8436(6)$ $c = 14.0637(10)$ $Z = 3$

X-ray Powder Pattern: Torrecillas mine, Salar Grande, Iquique Province, Tarapacá Region, Chile. 2.766 (100), 5.469 (90), 2.269 (66), 1.711 (33), 1.822 (26), 1.383 (23), 2.905 (22)

Chemistry:	(1)	(2)
CuO	62.80	56.48
CoO	7.49	17.73
NiO	1.23	
MnO	2.72	
MgO	0.06	
Cl	15.40	16.78
H ₂ O	[12.57]	12.79
-Cl = O	3.47	3.79
Total	98.80	100.00

(1) Torrecillas mine, Salar Grande, Iquique Province, Tarapacá Region, Chile; average of 9 electron microprobe analyses, H₂O from stoichiometry and structure analysis; corresponding to

Cu₃(Co_{0.43}Cu_{0.40}Mn_{0.17}Ni_{0.07}Mg_{0.01})_{Σ=1.08}Cl_{1.87}O_{6.13}H₆. (2) Cu₃CoCl₂(OH)₆.

Mineral Group: Paratacamite group.

Occurrence: As a secondary mineral in a weathered vein of copper and arsenic minerals.

Association: Akaganeite, anhydrite, chalcophanite, goethite, halite, manganite, pyrite, quartz, todorokite.

Distribution: At the Torrecillas mine, Salar Grande, Iquique Province, Tarapacá Region, Chile.

Name: Honors Peter Leverett (b. 1944), professor of Chemistry, University of Western Sydney, Australia, in recognition of his contributions to research and teaching in chemistry and chemical geology.

Type Material: Natural History Museum of Los Angeles County, Los Angeles, California, USA (64031-64034).

References: (1) Kampf, A.R., M.J. Sciberras, P.A. Williams, M. Dini, and A.A. Molina Donoso (2013) Leverettite from the Torrecillas mine, Iquique Province, Chile: the Co-analogue of herbertsmithite. *Mineral. Mag.*, 77(7), 3047-3054. (2) (2016) *Amer. Mineral.*, 101, 489 (abs. ref. 1).