Teschemacherite $(NH_4)HCO_3$

Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. As compact fine-grained crystalline aggregates, in beds several cm thick.

Physical Properties: *Cleavage:* On {110}, perfect. *Tenacity:* Brittle. Hardness = 1.5 D(meas.) = 1.45 D(calc.) = 1.545 Soluble in H_2O, decomposes in humid air.

Optical Properties: Transparent. *Color:* Colorless to white, pale yellow; colorless in transmitted light.
Optical Class: Biaxial (–). *Orientation:* $X = a$; $Y = b$; $Z = c$. *Dispersion:* $r < v$, weak.
$\alpha = 1.423$ $\beta = 1.536$ $\gamma = 1.554$ 2V(calc.) = 41°38′

Cell Data: *Space Group: Pccn.* $a = 7.225$ $b = 10.709$ $c = 8.746$ Z = 8

X-ray Powder Pattern: Synthetic.
2.998 (100), 5.34 (60), 3.62 (55), 4.05 (45), 3.005 (45), 3.068 (30), 2.1547 (30)

Chemistry:

	(1)	(2)
P_2O_5	0.60	
CO_2	51.53	55.67
CaO	6.02	
$(NH_4)_2O$	29.76	32.94
H_2O	11.00	11.39
uric acid	1.09	
Total	100.00	100.00

(1) Chincha Islands, Peru. (2) $(NH_4)HCO_3$.

Occurrence: Rarely found in guano deposits.

Association: n.d.

Distribution: From an undefined locality in Patagonia [probably in Argentina]. At Saldanha Bay, Cape Province, South Africa. On the Chincha and Guañape Islands, off the coast of Peru.

Name: To honor Frederick Edward Teschemacher (1791–1863), English chemist, who first described the species.

References: (1) Dana, E.S. (1892) Dana's system of mineralogy, (6th edition), 294.
(2) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 137–138. (3) Pertlik, F. (1981) Verfeinerung der Kristallstruktur des Teschemacherits, $NH_4CO_2(OH)$. Tschermaks Mineral. Petrog. Mitt., 29, 67–74 (in German with English abs.).
(4) (1959) NBS Circ. 539, 9.