

Stercorite**(NH₄)Na(PO₃OH)·4H₂O**

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Crystal Data: Triclinic, pseudomonoclinic. *Point Group:* $\bar{1}$. Crystalline, nodular and massive. *Twinning:* Common on {010}.

Physical Properties: Hardness = 2 D(meas.) = 1.574 (synthetic). D(calc.) = 1.570 Soluble in H₂O.

Optical Properties: Transparent. *Color:* White to yellowish and brownish; colorless in transmitted light. *Luster:* Vitreous.

Optical Class: Biaxial (+). *Orientation:* Z \simeq \perp {001}; OAP \simeq \perp {010}. *Dispersion:* $r > v$, rather strong. $\alpha = 1.439$ $\beta = 1.442$ $\gamma = 1.469$ $2V(\text{meas.}) = 35^\circ 34'$

Cell Data: *Space Group:* $P\bar{1}$. $a = 10.636(2)$ $b = 6.9187(14)$ $c = 6.4359(13)$
 $\alpha = 90.46(3)^\circ$ $\beta = 97.87(3)^\circ$ $\gamma = 109.20(3)^\circ$ $Z = 2$

X-ray Powder Pattern: Synthetic. (ICDD 24-1048).

6.53 (100), 9.93 (95), 4.24 (55), 2.911 (50), 2.884 (50), 4.77 (40), 3.658 (40)

Chemistry:

	(1)	(2)	(3)
P ₂ O ₅	34.33	34.54	33.95
Na ₂ O	15.75	14.50	14.82
(NH ₄) ₂ O	7.68	8.48	12.45
H ₂ O	42.24	42.48	38.78
Total	100.00	100.00	100.00

(1) Ichaboe Island, Namibia. (2) Guañape Island, Peru. (3) (NH₄)Na(PO₃OH)·4H₂O.

Occurrence: In bird and bat guano deposits.

Association: Struvite (Ichaboe Island, Namibia); archerite, biphosphammite (Petrogale Cave, Western Australia).

Distribution: On Ichaboe Island, northwest of Lüderitz, Namibia. From Guañape Island, south of Trujillo, Peru. In Petrogale Cave, near Madura, Western Australia.

Name: From the Latin for *dung*.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 698–699. (2) Ferraris, G. and M. Franchini-Angela (1974) Hydrogen bonding in the crystalline state: crystal structure and twinning of NaNH₄HPO₄·4H₂O (stercorite). *Acta Cryst.*, 30, 504–510.