Söhngeite $Ga(OH)_3$

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Crystal Data: Orthorhombic, pseudocubic. Point Group: 2/m 2/m 2/m. In crystalline twinned groups and aggregates, to 1 cm; very rarely as single crystals. Twinning: As trillings of composite flattened and curved crystals, interpenetrant at right angles, according to an unknown law.

Physical Properties: Hardness = 4-4.5 D(meas.) = 3.84 D(calc.) = 3.847

Optical Properties: Semitransparent. Color: White, pale yellow, pale brown, pale greenish yellow.

Optical Class: Isotropic. n = 1.736

Cell Data: Space Group: $Pmn2_1$. a = 7.4865 b = 7.4379 c = 7.4963 Z = [8]

X-ray Powder Pattern: Tsumeb, Namibia.

3.74 (10), 1.669 (7), 2.63 (6), 1.525 (6), 1.867 (4), 2.15 (3.5), 2.36 (3)

Chemistry:

	(1)	(2)
SiO_2	1.8	
Al_2O_3	4.7	
Ga_2O_3	66.8	77.62
Fe_2O_3	2.3	
$\mathrm{H_2O^+}$	19.6	
$\mathrm{H_2O^-}$	4.2	
$\mathrm{H_2O}$		22.38
Total	99.4	100.00

(1) Tsumeb, Namibia. (2) $Ga(OH)_3$.

Occurrence: An alteration product of gallite-bearing germanite in an oxidation zone of a dolostone-hosted hydrothermal polymetallic ore deposit.

Association: Germanite, gallite.

Distribution: From Tsumeb, Namibia.

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Type Material: n.d.

References: (1) Strunz, H. (1965) Söhngeit, Ga(OH)₃, ein neues Mineral. Naturwissenschaften, 52, 493 (in German). (2) (1966) Amer. Mineral., 51, 1815 (abs. ref. 1). (3) Scott, J.D. (1970) Crystal structure of a new mineral, söhngeite. Amer. Crystallogr. Assoc., Prog. and Abs., 76. (4) Pinch, W.W. and W.E. Wilson (1977) [Tsumeb] Minerals: a descriptive list. Mineral. Record, 8(3), 32.