

Crystal Data: Orthorhombic, pseudocubic. *Point Group:* $2/m\ 2/m\ 2/m$, $mm2$, or 222 . As subhedral pseudocubo-octahedral crystals, showing {001}, {010}, {110}, {011}, {101}, {111}, and {131}, and in anhedral cleavages, to several cm; as irregular grains, massive; as inclusions in cryolite and intergrowths with fluorite. *Twinning:* With $[1\bar{1}1]$ as twin axis and {011} as composition plane, commonly as contact twins.

Physical Properties: *Cleavage:* {011}, poor; {010}, indistinct. *Fracture:* Uneven. Hardness = 3.5 D(meas.) = 2.96 D(calc.) = 2.966 Slightly soluble in H₂O.

Optical Properties: Translucent. *Color:* Light gray, mottled, rarely pale orange; colorless in transmitted light. *Streak:* White. *Luster:* Vitreous.

Optical Class: Biaxial (+). *Orientation:* $X = c$; $Y = a$; $Z = b$. $\alpha = 1.344\text{--}1.346$
 $\beta = 1.346\text{--}1.348$ $\gamma = 1.347\text{--}1.350$ $2V(\text{meas.}) = 83(3)^\circ$

Cell Data: *Space Group:* $Imma$, $Imm2$, or $I2_12_12_1$. $a = 7.060(1)$ $b = 10.000(10)$
 $c = 7.303(1)$ $Z = 4$

X-ray Powder Pattern: Ivigtut, Greenland.

1.779 (10), 2.95 (9), 2.89 (9), 5.05 (6), 5.89 (5), 2.30 (5), 1.542 (5)

Chemistry:

	(1)	(2)
Na	19.08	19.97
K	1.19	
Fe	0.37	
Mg	10.43	10.56
Ca	0.08	
Al	11.65	11.72
F	57.58	57.75
insol.	0.16	
Total	100.54	100.00

(1) Ivigtut, Greenland. (2) Na₂MgAlF₇.

Occurrence: In the cryolite deposit and overlying pegmatite (Ivigtut, Greenland).

Association: Cryolite, chiolite, jarlite, stemonite, thomsenolite, prosopite, pachnolite, ralstonite, fluorite, topaz, potassian mica, pyrite, galena (Ivigtut, Greenland).

Distribution: From the Ivigtut cryolite deposit, southwestern Greenland. At St. Peters Dome, near Pikes Peak, El Paso Co., and in the Goldie carbonatite, McClure Mountain-Iron Mountain, Fremont Co., Colorado; from the Zapot pegmatite, 25 km northeast of Hawthorne, Fitting district, Mineral Co., Nevada, USA. In the Mt. Cleveland tin mine, western Tasmania, Australia. At Perga, Volyn, Ukraine.

Name: Honors Theobald Weber (1823–1886), active in the early development of the Ivigtut cryolite deposit.

Type Material: University of Copenhagen, Copenhagen, Denmark, 1981.936.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 127–128. (2) Ferguson, R.B. (1949) Observations on some aluminum fluoride minerals. *Amer. Mineral.*, 34, 383–397. (3) Giuseppetti, G. and C. Tadini (1978) Re-examination of the crystal structure of weberite. *Tschermaks Mineral. Petrog. Mitt.*, 25, 57–62. (4) Pauly, H. and O.V. Petersen (1981) Weberite from Ivigtut, South Greenland: new data on paragenesis, twinning, habit, and optics. *Neues Jahrb. Mineral., Monatsh.*, 511–519. (5) Knop, O., T.S. Cameron, and K. Jochem (1982) What is the true space group of weberite? *J. Solid State Chem.*, 43, 213–221.

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