

Crystal Data: Hexagonal. *Point Group:* 6/m 2/m 2/m. Crystals thin tabular, to 0.5 mm.

Physical Properties: *Cleavage:* One direction, good. *Fracture:* Conchoidal, "rare".
Hardness = 7.6 VHN = 1393 (15 g load). D(meas.) = 3.30 D(calc.) = 3.21

Optical Properties: Transparent. *Color:* Colorless to pale green.
Optical Class: Uniaxial (-). *Absorption:* Weak. $\omega = 1.6876(2)$ $\epsilon = 1.6630(2)$

Cell Data: *Space Group:* P6₃/mmc. $a = 5.602(1)$ $c = 22.626(5)$ $Z = 2$

X-ray Powder Pattern: Diaoyudao Island, China.
11.2 (10), 2.680 (7), 5.65 (6), 1.400 (6), 2.505 (5), 2.028 (4), 1.413 (4)

Chemistry:	(1)	(2)
SiO ₂	0.23	
Al ₂ O ₃	93.00	94.76
Cr ₂ O ₃	1.95	
MgO	0.10	
CaO	0.10	
Na ₂ O	4.54	5.24
K ₂ O	0.12	
Total	100.04	100.00

(1) Diaoyudao Island, China; by electron microprobe, average of 13 analyses; corresponds to (Na_{0.87}K_{0.02}Mg_{0.02}Ca_{0.01})_{Σ=0.92}(Al_{10.84}Cr_{0.15}Si_{0.02})_{Σ=11.01}O₁₇. (2) NaAl₁₁O₁₇.

Occurrence: In the heavy-mineral (S.G. > 2.8) fraction of the surface layer of sea-floor muds at about 1500 m water depth.

Association: Chromium inclusions; other heavy minerals include "hornblende", epidote, dolomite, muscovite, chlorite, biotite.

Distribution: In the Okinawa Trough, near Diaoyudao Island, a few km northeast of Taiwan.

Name: For Diaoyudao Island, near which it occurs.

Type Material: Museum of Geology, Beijing, China.

References: (1) Shen Shunxi, Chen Lirong, Li Anchun, Dong Tailu, Huang Qiuho, and Xu Wenqiang (1986) Diaoyudaoite – a new mineral. *Acta Mineralogica Sinica*, 6, 224–227 (in Chinese with English abs.). (2) (1990) *Amer. Mineral.*, 75, 240 (abs. ref. 1).