

**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:* P6<sub>3</sub>/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 <sub>2</sub>	0.23	
Al <sub>2</sub> O <sub>3</sub>	93.00	94.76
Cr <sub>2</sub> O <sub>3</sub>	1.95	
MgO	0.10	
CaO	0.10	
Na <sub>2</sub> O	4.54	5.24
K <sub>2</sub> O	0.12	
Total	100.04	100.00

(1) Diaoyudao Island, China; by electron microprobe, average of 13 analyses; corresponds to (Na<sub>0.87</sub>K<sub>0.02</sub>Mg<sub>0.02</sub>Ca<sub>0.01</sub>)<sub>Σ=0.92</sub>(Al<sub>10.84</sub>Cr<sub>0.15</sub>Si<sub>0.02</sub>)<sub>Σ=11.01</sub>O<sub>17</sub>. (2) NaAl<sub>11</sub>O<sub>17</sub>.

**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 Qiuhuo, 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).