

Kulkeite**Na_{0.35}Mg₈Al(AlSi₇)O₂₀(OH)₁₀**

©2001 Mineral Data Publishing, version 1.2

Crystal Data: Monoclinic. *Point Group:* n.d. As platy to subhedral crystals, to 2 mm, and in aggregates.

Physical Properties: *Cleavage:* Perfect on {001}. *Hardness* = ~2 *D*(meas.) = n.d.
D(calc.) = 2.70

Optical Properties: Transparent. *Color:* Colorless. *Streak:* White. *Luster:* Pearly on the cleavage.

Optical Class: Biaxial (-). *Orientation:* $X = c$; $Y = a$; $Z = b$. *Dispersion:* $r < v$. $\alpha = 1.552$
 $\beta = 1.5605$ $\gamma = 1.5610$ $2V$ (meas.) = $24(3)^\circ$ $2V$ (calc.) = 27°

Cell Data: *Space Group:* n.d. $a = 5.319(1)$ $b = 9.195(2)$ $c = 23.897(10)$ $\beta = 97^\circ 1(2)'$
 $Z = 2$

X-ray Powder Pattern: Derrag, Algeria.

7.90 (10), 11.9 (8), 3.38 (8), 4.74 (6), 2.55 (6), 2.96 (5), 2.46 (5)

Chemistry:

	(1)
SiO ₂	40.53
Al ₂ O ₃	12.64
MgO	33.19
CaO	0.06
Na ₂ O	1.20
K ₂ O	0.07
H ₂ O	[9.24]
Total	[96.93]

(1) Derrag, Algeria; by electron microprobe, H₂O from theoretical formula; corresponding to (Na_{0.38}K_{0.01})_{Σ=0.39}Mg_{8.02}Al_{0.99}(Si_{6.57}Al_{1.43})_{Σ=8.00}O₂₀(OH)₁₀.

Polymorphism & Series: A 1:1 regular interstratification of trioctahedral chlorite and talc.

Occurrence: In dolostone, metamorphosed below 400 °C, with evaporites.

Association: Talc, chlorite, phlogopite, tourmaline.

Distribution: From El Mourdur Hill, near Derrag, 35 km west of Ksar El Boukhari, Tell Atlas Mountains, Algeria.

Name: For Dr. Holger Kulke, geologist of Essen, Germany, who provided the original specimen.

Type Material: Ruhr University, Bochum, Germany; National Museum of Natural History, Washington, D.C., USA, 147361.

References: (1) Abraham, K., W. Schreyer, O. Medenbach, and W. Gebert (1980) Kulkeite, ein geordnetes 1:1 Mixed-Layer-Mineral zwischen Klinochlor und Talc. *Fortschr. Mineral., Beiheft* 1, 58, 4-5 (in German). (2) (1981) *Amer. Mineral.*, 66, 218 (abs. ref. 1). (3) Schreyer, W., O. Medenbach, K. Abraham, W. Gebert, and W.F. Müller (1982) Kulkeite, a new metamorphic phyllosilicate mineral: ordered 1:1 chlorite/talc mixed layer. *Contr. Mineral. Petrol.*, 80, 103-109.