

Tungusite



©2001 Mineral Data Publishing, version 1.2

Crystal Data: n.d. *Point Group:* n.d. As flakes, to 15 mm, and as platy aggregates with a radial-fibrous structure, to 8 cm.

Physical Properties: *Tenacity:* Brittle; platelets flexible. Hardness = ~ 2 D(meas.) = 2.59 D(calc.) = n.d.

Optical Properties: Transparent. *Color:* Grass-green to greenish white, may have a grayish tint; in transmitted light, yellowish green. *Luster:* Slightly pearly on flakes.

Optical Class: Uniaxial (-); may be biaxial. *Pleochroism:* Weak; yellowish green. $\omega = 1.568(2)$ $\epsilon = \text{n.d.}$ $2V(\text{meas.}) = \text{Very small.}$

Cell Data: *Space Group:* n.d. $Z = \text{n.d.}$

X-ray Powder Pattern: Lower Tunguska River, Russia.

1.818 (100), 4.17 (80), 3.12 (80), 3.01 (80), 3.58 (60b), 1.605 (30), 1.570 (30)

Chemistry:

	(1)	(2)
SiO ₂	47.56	45.07
Al ₂ O ₃	2.90	2.97
Fe ₂ O ₃	1.91	1.71
FeO	11.69	11.36
MnO	1.33	1.44
MgO	0.84	1.31
CaO	24.33	26.11
Na ₂ O	1.61	2.21
H ₂ O ⁺	7.40	6.37
H ₂ O ⁻	0.60	1.45
Total	100.17	100.00

(1-2) Lower Tunguska River, Russia; average of two analyses, corresponds to $(\text{Ca}_{3.46}\text{Na}_{0.48}\text{Mn}_{0.06})_{\Sigma=4.00}(\text{Fe}_{1.23}^{2+}\text{Al}_{0.37}\text{Mg}_{0.21}\text{Fe}_{0.17}^{3+}\text{Mn}_{0.08})_{\Sigma=2.06}(\text{Si}_{5.94}\text{Al}_{0.06})_{\Sigma=6.00}\text{O}_{15}(\text{OH})_6$.

Occurrence: A secondary mineral forming crusts lining cavities and amygdules in hydrothermally altered basalts.

Association: Analcime, apophyllite, gyrolite, calcite, quartz.

Distribution: Found along the Lower Tunguska River, near Tura, central Siberia, Russia.

Name: For the Tunguska River, Russia.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia.

References: (1) Kudryashova, V.I. (1966) Tungusite, a new mineral of the hydrous calcium silicate group. Doklady Acad. Nauk SSSR, 171, 1167-1170 (in Russian). (2) (1967) Amer. Mineral., 52, 927-928 (abs. ref. 1).