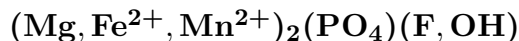


# Magniotriplite



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**Crystal Data:** Monoclinic. *Point Group:*  $2/m$ . As crystals and nodular masses, to 8 cm.

**Physical Properties:** *Cleavage:* One direction observed under the microscope.

*Fracture:* Uneven. *Hardness* = 4 *D*(meas.) = 3.57 *D*(calc.) = 3.68

**Optical Properties:** Translucent. *Color:* Reddish brown, yellow. *Streak:* Pale brown.

*Luster:* Vitreous to resinous.

*Optical Class:* Biaxial (+). *Pleochroism:* Weak; *X* = light yellow to colorless; *Y* = light yellow;

*Z* = wine-yellow. *Orientation:*  $Z = b$ ;  $X \wedge a = 18^\circ$ . *Dispersion:*  $r > v$ ;  $r < v$ .  $\alpha = 1.641\text{--}1.648$

$\beta = 1.649\text{--}1.653$   $\gamma = 1.661\text{--}1.664$   $2V(\text{meas.}) = 60^\circ$

**Cell Data:** *Space Group:*  $I2/a$ .  $a = 12.035(5)$   $b = 6.432(4)$   $c = 9.799(2)$

$\beta = 108.12(2)^\circ$   $Z = 8$

**X-ray Powder Pattern:** Valmy, France; close to wagnerite.

2.864 (100), 3.015 (80), 3.162 (70), 2.794 (60), 3.587 (50), 3.324 (50), 2.576 (30)

<b>Chemistry:</b>	(1)	(2)	(1)	(2)	
P <sub>2</sub> O <sub>5</sub>	36.52	36.03	CaO	0.00	0.05
SiO <sub>2</sub>	2.40		Na <sub>2</sub> O	0.00	
TiO <sub>2</sub>	0.92	0.30	K <sub>2</sub> O	0.00	
Al <sub>2</sub> O <sub>3</sub>	0.70		F	6.00	6.50
FeO	25.90	31.68	H <sub>2</sub> O <sup>+</sup>	0.64	1.40
MnO	13.00	8.25	H <sub>2</sub> O <sup>-</sup>	0.10	
MgO	17.12	18.00	-O = F <sub>2</sub>	2.52	2.74
			<hr/>		
			Total	100.78	99.47

(1) Karasu pegmatite, Kyrgyzstan; SiO<sub>2</sub> quartz impurity, corresponds to (Mg<sub>0.88</sub>Fe<sub>0.74</sub>Mn<sub>0.38</sub>)<sub>Σ=2.00</sub>(PO<sub>4</sub>)<sub>1.06</sub>[F<sub>0.66</sub>(OH)<sub>0.14</sub>]<sub>Σ=0.80</sub>. (2) Valmy, France; corresponding to (Mg<sub>0.89</sub>Fe<sub>0.87</sub>Mn<sub>0.23</sub>Ti<sub>0.01</sub>)<sub>Σ=2.00</sub>(PO<sub>4</sub>)[F<sub>0.68</sub>(OH)<sub>0.31</sub>]<sub>Σ=0.99</sub>.

**Occurrence:** In zoned complex granite pegmatites.

**Association:** Arrojadite, triphylite, muscovite, albite, quartz (Karasu pegmatite, Kyrgyzstan); vivianite, graftonite (Valmy, France).

**Distribution:** From the Karasu and Kyrk-Bulak pegmatites, Turkestan Range, Kyrgyzstan. At Hålsjöberget, Värmland, Sweden. From Valmy, Albères massif, Pyrénées-Orientales, France. In the Tip Top mine, 8.5 km southwest of Custer, Custer Co., South Dakota, USA.

**Name:** As the *magnesium* dominant analog of *triplite*.

**Type Material:** A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 50653–50658.

**References:** (1) Ginsburg, A.I., N.A. Kruglova, and V.A. Moleva (1951) Magniotriplite – a new mineral of the triplite group. *Doklady Acad. Nauk SSSR*, 77, 97–100 (in Russian). (2) (1952) *Amer. Mineral.*, 37, 359–360 (abs. ref. 1). (3) Fontan, F. (1981) La magniotriplite ferrifère du massif des Albères (Pyrénées-Orientales, France). Une nouvelle variété. *Bull. Minéral.*, 104, 672–676 (in French with English abs.). (4) Tadini, C. (1981) Magniotriplite: its crystal structure and relation to the triplite-triploidite group. *Bull. Minéral.*, 104, 677–680. (5) Pekov, I.V. (1998) Minerals first discovered on the territory of the former Soviet Union, 134.