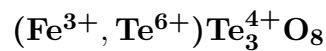


Walfordite



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Crystal Data: Cubic. *Point Group:* $2/m\bar{3}$. Crystals are cubic {100}, may be modified by minor {111}, to 0.2 mm.

Physical Properties: *Tenacity:* Brittle. *Hardness* = n.d. *D(meas.)* = n.d.
D(calc.) = 5.841

Optical Properties: Transparent to opaque. *Color:* Orange. *Streak:* Yellow-orange.
Luster: Adamantine.
Optical Class: Isotropic. $n = [2.23]$ (by the rule of Gladstone and Dale).

Cell Data: *Space Group:* $Ia\bar{3}$. $a = 11.011(5)$ $Z = 8$

X-ray Powder Pattern: Tambo mine, Chile.
3.175 (100), 1.658 (45), 1.944 (44), 2.749 (37), 4.486 (29), 2.943 (23), 2.592 (22)

Chemistry:	(1)
	TeO ₃ 8.67
	TeO ₂ 81.74
	TiO ₂ 1.11
	Fe ₂ O ₃ 8.30
	MgO 0.38
	<hr/>
	Total 100.20

(1) Tambo mine, Chile; by electron microprobe, total Fe as Fe₂O₃; Te calculated for Te⁴⁺O₃, the balance as Te⁶⁺; then corresponds to (Fe_{0.61}³⁺Te_{0.29}⁶⁺Ti_{0.08}Mg_{0.06})_{Σ=1.04}Te_{3.00}⁴⁺O₈.

Occurrence: Very rare in the brecciated oxidized zone of a tellurium-bearing hydrothermal gold deposit.

Association: Alunite, rodalquilarite, gold, emmonsite, jarosite, pyrite.

Distribution: From the Wendy open pit, El Indio-Tambo district, east of La Serena, Coquimbo, Chile.

Name: Honors Phillip Walford (1945—), Chief Geologist, LAC Minerals Ltd., who noted the first specimens.

Type Material: Royal Ontario Museum, Toronto, Canada, M47817, M47818.

References: (1) Back, M.E., J.D. Grice, R.A. Gault, A.J. Criddle, and J.A. Mandarino (1999) Walfordite, a new tellurite species from the Wendy open pit, El Indio – Tambo mining property, Chile. *Can. Mineral.*, 37, 1261–1268. (2) (2000) *Amer. Mineral.*, 85, 1324 (abs. ref. 1).