

**Crystal Data:** Cubic. Point Group:  $4/m \bar{3} 2/m$ . As the outer portions of cubic suessite crystals, skeletal, to 0.3 mm; in spheroidal aggregates.

**Physical Properties:** Fracture: Irregular. Hardness =  $> 9$  VHN = 2290–2230 (100 g load). D(meas.) = n.d. D(calc.) = 10.01

**Optical Properties:** Opaque. Color: Dark gray. Luster: Metallic.

Optical Class: Isotropic.

R: (440) 46.2, (460) 46.4, (480) —, (500) 47.2, (520) 47.2, (540) 47.2, (560) 47.4, (580) 47.5, (600) 47.7, (620) 47.9, (640) 48.4, (660) 49.7, (680) 50.3, (700) 50.6

**Cell Data:** Space Group:  $Fm\bar{3}m$ .  $a = 4.319(5)$  Z = 8

**X-ray Powder Pattern:** Chinorsaisk massif, Tadzhikistan.  
2.163 (10), 1.299 (10), 1.535 (8), 2.504 (6), 1.247 (4), 1.079 (2)

**Chemistry:**

	(1)
Si	0.10
Ti	69.04
Fe	1.71
V	6.74
C	[20.05]
Total	[97.64]

(1) Chatkal Range, Russia; by electron microprobe, average of five analyses, C calculated; corresponding to  $(\text{Ti}_{0.90}\text{V}_{0.08}\text{Fe}_{0.02})_{\Sigma=1.00}\text{C}_{1.04}$ .

**Occurrence:** In amygdaloidal basaltic porphyries (Chatkal Range, Russia); in spheroidal groups in granodiorites that have undergone silica metasomatism (Chinorsaisk massif, Tadzhikistan).

**Association:** Suessite (Chatkal Range, Russia); magnetite, iron, carbonaceous material (Chinorsaisk massif, Tadzhikistan).

**Distribution:** From undefined localities [Ir-Tash stream basin] in the Arashan Mountains, Chatkal Range, and in the Chinorsaisk massif, Zeravshan Range, Tadzhikistan.

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

**References:** (1) Novgorodova, M.I., R.G. Yusupov, M.T. Dmitrieva, A.I. Tsepina, A.V. Sivtsov, and A.I. Gorshkov (1984) Khamrabaevite,  $(\text{Ti}, \text{V}, \text{Fe})\text{C}$ , a new mineral. Zap. Vses. Mineral. Obshch., 113, 697–703 (in Russian). (2) (1985) Amer. Mineral., 70, 1329 (abs. ref. 1). (3) (1986) Mineral. Abs., 37, 98 (abs. ref. 1). (4) Bowman, A.L. (1961) The variation of lattice parameter with carbon content of tantalum carbide. J. Phys. Chem., 65, 1596–1602.