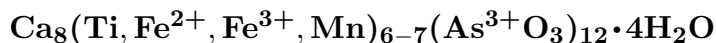


**Cafarsite**

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**Crystal Data:** Cubic. *Point Group:*  $2/m\bar{3}$ . Crystals, to 3 cm, faces smooth to rough, cubo-octahedral, with dodecahedron and {hk0}.**Physical Properties:** *Fracture:* Conchoidal. Hardness = 5.5-6 D(meas.) = 3.90 D(calc.) = [3.50]**Optical Properties:** Opaque to translucent in thin fragments. *Color:* Dark brown; red in transmitted light. *Streak:* Yellow-brown.*Optical Class:* Isotropic; marked anisotropism under crossed polars.  $n = \geq 2.20$ 

R: n.d.

**Cell Data:** *Space Group:*  $Pn\bar{3}$ .  $a = 15.984$   $Z = 4$ **X-ray Powder Pattern:** Pizzo Cervandone, Italy.

2.827 (100), 2.747 (80), 3.140 (60), 1.6857 (60), 3.675 (50), 1.724 (50), 9.17 (40)

**Chemistry:**

	(1)	(2)
As <sub>2</sub> O <sub>5</sub>	60.0	
TiO <sub>2</sub>	8.5	14.1
SnO <sub>2</sub>		0.13
Al <sub>2</sub> O <sub>3</sub>		0.7
Fe <sub>2</sub> O <sub>3</sub>	11.0	
As <sub>2</sub> O <sub>3</sub>		55.0
FeO		7.8
MnO	5.0	2.6
CaO	13.0	16.5
Na <sub>2</sub> O		1.1
H <sub>2</sub> O	2.4	1.6
Total	99.9	99.53

(1) Cherbadung, Switzerland. (2) Do.; by electron microprobe and AA; As<sup>3+</sup> detected by an iodine test; corresponds to (Ca<sub>6.35</sub>Mn<sub>0.79</sub>Na<sub>0.77</sub>)<sub>Σ=7.91</sub>(Ti<sub>3.81</sub>Fe<sub>2.34</sub>Al<sub>0.30</sub>Sn<sub>0.02</sub>)<sub>Σ=6.47</sub>As<sub>12.01</sub>O<sub>36</sub>·1.92H<sub>2</sub>O.**Occurrence:** On cleft faces in orthogneiss (Cherbadung, Switzerland).**Association:** Asbecasite, gasparite-(Ce), chernovite, synchysite (Cherbadung, Switzerland).**Distribution:** On the west flank of Cherbadung [Pizzo Cervandone], Binntal, Valais, Switzerland. On the east flank of Pizzo Cervandone, Alpe Devero, Val d'Aosta, Piedmont, Italy. In the Hemlo gold mine, Ontario, Canada.**Name:** For elements in the composition, CAlcium, iron (Ferrum), and ARSenic.**Type Material:** Natural History Museum, Basel, Switzerland, SG749; The Natural History Museum, London, England, 1966,434.**References:** (1) Graeser, S. (1966) Asbecasit und Cafarsit, zwei neue Mineralien aus dem Binnatal (Kt. Wallis). Schweiz. Mineral. Petrog. Mitt., 46, 367-375 (in German with English abs.) (2) (1967) Amer. Mineral., 52, 1584 (abs. ref. 1). (3) Graeser, S. and A.G. Roggiani (1976) Occurrence and genesis of rare arsenate and phosphate minerals around Pizzo Cervandone, Italy/Switzerland. Rend. Soc. Ital. Mineral. Petrog., 32, 279-288. (4) Edenharter, A., W. Nowacki, and M. Weibel (1977) Zur Struktur und Zusammensetzung von Cafarsit. Cafarsit ein As(III)-Oxid, kein Arsenat. Schweiz. Mineral. Petrog. Mitt., 57, 1-16 (in German with English abs.).

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