

Crystal Data: Monoclinic. *Point Group:* 2/m Anhedra grains, to 3 mm.

Physical Properties: Hardness = n.d. VHN = n.d. D(meas.) = n.d. D(calc.) = 4.12

Optical Properties: Opaque. *Color:* Brownish gray in polished section; synthetic brezinaite is dull gray.

R₁–R₂: n.d.

Cell Data: *Space Group:* I2/m (synthetic). $a = 5.96(1)$ $b = 3.425(5)$ $c = 11.270(15)$
 $\beta = 91.54(3)^\circ$ $Z = 2$

X-ray Powder Pattern: Tucson iron meteorite.

2.644 (100), 5.67 (70), 2.056 (70), 1.716 (70), 2.978 (65), 2.606 (60), 5.23 (40)

Chemistry:

	(1)	(2)
Cr	48.3	54.88
Fe	3.9	
V	1.61	
Ti	0.96	
Mn	0.86	
Ni	0.08	
S	45.0	45.12
Total	100.71	100.00

(1) Tucson iron meteorite; by electron microprobe, average of 26 grains, corresponding to (Cr_{2.65}Fe_{0.20}V_{0.09}Ti_{0.06}Mn_{0.04})_{Σ=3.04}S_{4.00}. (2) Cr₃S₄.

Occurrence: In the metal matrix and contiguous to silicate inclusions (Tucson iron meteorite).

Association: Forsterite, enstatite, aluminous diopside, anorthite, feldspathic glass, kamacite, taenite, schreibersite (Tucson iron meteorite); troilite, carlsbergite, daubréelite (New Baltimore iron meteorite).

Distribution: In the Tucson [TL], New Baltimore, and Gibeon iron meteorites.

Name: In honor of Aristides Brezina (1848–1909), past Director of the Mineralogy-Petrology Section of the Natural History Museum, Vienna, Austria.

Type Material: Meteorite Collection, National Museum of Natural History, Washington, D.C., USA.

References: (1) Bunch, T.E. and L.H. Fuchs (1969) A new mineral: brezinaite, Cr₃S₄, and the Tucson meteorite. *Amer. Mineral.*, 54, 1509–1518. (2) Jelinek, F. (1957) The structure of the chromium sulfides. *Acta Cryst.*, 10, 620. (3) Buchwald, V.F. (1977) The mineralogy of iron meteorites. *Phil. Trans. Royal Soc. London*, A, 286, 453–491.