

Crystal Data: Hexagonal. *Point Group:* 6/m 2/m 2/m. As lamellar crystals, to 15 μm ; also as irregular aggregates, to 25 μm .

Physical Properties: *Cleavage:* None. *Tenacity:* Brittle. *Fracture:* Uneven.
Hardness = n.d. D(meas.) = n.d. D(calc.) = 5.31 Strongly ferrimagnetic.

Optical Properties: Opaque. *Color:* Black; grayish white with brownish red internal reflections in reflected light. *Pleochroism:* Weak, gray-white on R_0 , gray-white with a brown tint on R_c .
Birefractance: Weak. *Anisotrophism:* Distinct. *Streak:* Brown. *Luster:* Submetallic.
Optical Class: n.d.

R_0/R_c : (400) 25.08/23.31, (420) 24.77/23.00, (440) 24.59/22.95, (460) 24.54/22.82,
(470) 24.51/22.80, (480) 24.48/22.77, (500) 24.54/22.77, (520) 24.46/22.68, (540) 24.26/22.38,
(546) 24.17/22.25, (560) 23.97/22.03, (580) 23.79/21.79, (589) 23.65/21.68, (600) 3.49/21.55,
(620) 3.19/21.29, (640) 22.84/21.00, (650) 22.67/20.85, (660) 22.49/20.70, (680) 22.20/20.33,
(700) 21.87/19.90.

Cell Data: Space Group: $P6_3/mmc$ [by analogy with synthetic barium ferrite]. $a = 5.875$ (3)
 $c = 23.137$ (19) $Z = 2$

X-ray Powder Pattern: Haturim Formation, Mount Ye'elim, Israel.
2.770 (100), 2.624 (94), 1.627 (56), 2.938 (46), 2.420 (44), 2.225 (40), 2.120 (25), 1.665 (25)

Chemistry:	(1)
BaO	13.13
<u>Fe₂O₃</u>	<u>86.47</u>
Total	99.60

(1) Haturim Formation, Mount Ye'elim, Israel; average of 4 electron microprobe analyses, valence of iron determined by charge balance and X-ray emission spectroscopy; corresponds to (Ba_{0.95}Fe³⁺_{12.03}O₁₉).

Mineral Group: Magnetoplumbite group.

Occurrence: In a metamorphosed barite nodule in bituminous Ca-rich rocks of the spurrite-merwinite and pyroxene-hornfels facies.

Association: Barite, calcite, magnetite, maghemite.

Distribution: From the Haturim Formation (Mottled Zone) on the southern slope of Mount Ye'elim, Israel.

Name: For the essential *barium* content and *ferrite* anionic group.

Type Material: Mineralogical Museum, St. Petersburg State University, Russia; 1/19436.

References: (1) Murashko, M.N., N.V. Chukanov, A.A. Mukhanova, E. Vapnik, S.N. Britvin, S.V. Krivovichev, Yu.S. Polekhovskiy, and Yu.D. Ivakin (2010) Barioferrite BaFe⁺³₁₂O₁₉ a new magnetoplumbite-group mineral from Haturim Formation, Israel. *Zap. Ross. Mineral. Obshch.*, 139(3), 22-30 (in Russian, English abstract). *Geol. Ore Deposits*, (2011) 53(7), 558 (in English). (2) (2012) *Amer. Mineral.*, 97, 1818 (abs. ref. 1).