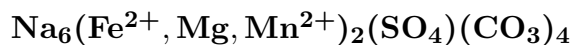


Ferrotychite



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Crystal Data: Cubic. *Point Group:* $2/m\bar{3}$. As grains, to 1 mm.

Physical Properties: *Fracture:* Conchoidal. Hardness = 4 VHN = 214–247, 228 average. D(meas.) = 2.79 D(calc.) = 2.78 Strongly magnetic; soluble in H₂O giving an alkaline solution.

Optical Properties: Semitransparent. *Color:* Colorless to bright yellow, surficially altered to golden brown. *Luster:* Vitreous.

Optical Class: Isotropic. $n = 1.550(2)$

Cell Data: *Space Group:* $Fd\bar{3}$. $a = 13.962(5)$ $Z = 8$

X-ray Powder Pattern: Khibiny massif, Russia.

2.68 (10), 4.18 (9), 2.47 (8), 1.614 (6), 2.36 (4), 1.958 (4), 1.428 (3)

Chemistry:

	(1)	(2)
SO ₃	14.00	13.67
CO ₂	[30.75]	30.05
FeO	15.26	24.53
MnO	4.35	
MgO	2.77	
Na ₂ O	32.30	31.75
Total	[99.43]	100.00

(1) Khibiny massif, Russia; by X-ray spectrographic analysis, SO₄²⁻ and CO₃²⁻ confirmed by IR spectroscopy, CO₂ calculated; corresponds to Na_{6.01}(Fe_{1.23}Mg_{0.40}Mn_{0.35})_{Σ=1.98}(S_{0.98}O₄)(C_{1.01}O₃)₄. (2) Na₆Fe₂(SO₄)(CO₃)₄.

Polymorphism & Series: Forms a series with tychite.

Occurrence: A rare constituent of a vein cutting ijolite-urtite in an alkaline igneous complex, from a drill core.

Association: Shortite, bonshtedtite, analcime.

Distribution: From along Olenii Ruchi (Reindeer's Stream), Khibiny massif, Kola Peninsula, Russia.

Name: For essential FERROus iron and the relation to *tychite*.

Type Material: Mining Institute, St. Petersburg, 1301/1; Geology Museum, Kola Branch, Academy of Sciences, Apatity, 5708/1; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 81590.

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