Ferchromide $\mathbf{Cr_3Fe_{1-x}}$ (x = 0.6)

Crystal Data: Cubic. *Point Group:* $4/m\ \overline{3}\ 2/m$. As small grains forming aggregates, to several hundred μm.

Physical Properties: Hardness = n.d. VHN = 900 (100 g load). D(meas.) = n.d. D(calc.) = 6.18 Ferromagnetic.

Optical Properties: Opaque. *Color:* Pale gray. *Luster:* Metallic.
R: (400) — , (420) — , (440) 55.2, (460) 55.4, (480) 56.2, (500) 56.9, (520) 58.0, (540) 58.8, (560) 59.5, (580) 60.4, (600) 61.0, (620) 61.0, (640) 61.8, (660) 62.3, (680) 62.8, (700) 63.2

Cell Data: *Space Group:* $Pm3m$. a = 2.882(5) Z = 1

X-ray Powder Pattern: Efim area, Russia.
2.04 (100), 1.17 (90), 0.77 (80), 1.02 (70), 1.44 (60), 1.66 (50), 1.29 (50)

Chemistry:

	(1)
Fe	12.60
Cr	87.58
Total	100.18

(1) Efim area, Russia; by electron microprobe, corresponding to $Cr_{3.0}Fe_{1-x}$, with x = 0.6.

Occurrence: In quartz veins within brecciated amphibolites and schist.

Association: Iron, copper, bismuth, gold, chromferide, graphite, cohenite, halite, sylvite, marialite, quartz.

Distribution: From a gold deposit in the Efim area, Kumak district, 110 km east of Orsk, Southern Ural Mountains, Russia [TL].

Name: For the chemical composition, FERrum, *iron*, and CHROMium.

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

References: (1) Novgorodova, M.I., A.I. Gorshkov, N.V. Trubkin, A.I. Tsepin, and M.T. Dmitrieva (1986) New natural intermetallic compounds of iron and chromium – chromferide and ferchromide. Zap. Vses. Mineral. Obshch., 115, 355–360 (in Russian). (2) (1988) Amer. Mineral., 73, 191 (abs. ref. 1).