

**Rudashevskyite****(Fe, Zn)S**

**Crystal Data:** Cubic. *Point Group:*  $\bar{4} 3m$ . As xenomorphic grains, to 120  $\mu\text{m}$ .

**Physical Properties:** *Cleavage:* None observed. *Fracture:* n.d. *Tenacity:* Brittle.  
Hardness = n.d. VHN = 313-383, 353 average (20 g load). D(meas.) = n.d. D(calc.) = 3.79

**Optical Properties:** Opaque. *Color:* Black; gray with a brownish tint in reflected light.

*Streak:* Brown-black. *Luster:* Resinous to submetallic.

*Optical Class:* Isotropic.

R: (400) 19.5, (420) 19.5, (440) 19.5, (460) 19.5, (480) 19.6, (500) 19.8, (520) 19.9, (540) 20.2, (546) 20.3, (560) 20.5, (580) 20.7, (589) 20.8, (600) 20.9, (620) 20.9, (640) 21.1, (660) 21.1, (680) 21.1, (700) 21.2

**Cell Data:** *Space Group:*  $F\bar{4} 3m$ .  $a = 5.426(2)$   $Z = 4$

**X-ray Powder Pattern:** Indarch enstatite chondrite meteorite.

3.130 (100), 1.919 (50), 1.634 (40), 1.246 (30), 1.107 (30), 1.045 (30), 2.714 (10)

Chemistry:	(1)	(2)
Fe	37.1	30.13
Zn	24.7	35.28
Mn	2.4	
Cu	0.4	
S	35.3	34.60
Total	99.9	100.01

(1) Indarch enstatite chondrite meteorite; average of 31 electron microprobe analyses; corresponds to  $(\text{Fe}_{0.61}\text{Zn}_{0.35}\text{Mn}_{0.04}\text{Cu}_{0.01})_{\Sigma=1.00}\text{S}_{1.00}$ . (2) (Fe, Zn)S Fe:Zn = 1:1.

**Polymorphism & Series:** Partial solid-solution series with sphalerite.

**Occurrence:** An accessory phase in enstatite chondrite meteorites.

**Association:** Clinoenstatite, kamacite, troilite, oldhamite, niningerite, schreibersite, roedderite.

**Distribution:** From the Indarch enstatite chondrite meteorite.

**Name:** Honors Nickolay S. *Rudashevsky* (b. 1944), St. Petersburg, Russia, for his contributions to the study of ore minerals.

**Type Material:** Mineralogical Museum, Department of Mineralogy, St. Petersburg State University, St. Petersburg, Russia.

**References:** (1) Britvin, S.N., A.N. Bogdanova, M.M. Boldyreva, and G.Y. Aksenova (2008) Rudashevskyite, the Fe-dominant analogue of sphalerite, a new mineral: Description and crystal structure. *Amer. Mineral.*, 93, 902-909.