

Crystal Data: Monoclinic. *Point Group:* 2/m. As anhedral grains to 150 μm.

Physical Properties: *Cleavage:* None. *Tenacity:* Brittle. *Fracture:* Conchoidal. Hardness = 6.5-7
D(meas.) = n.d. D(calc.) = 4.86

Optical Properties: Transparent. *Color:* Olive green. *Streak:* White. *Luster:* Vitreous to adamantine.

Optical Class: Biaxial (-). $\alpha = 1.78(1)$ $\beta(\text{calc.}) = 1.80$ $\gamma = 1.81(1)$ $2V(\text{meas.}) = 62(3)^\circ$

Dispersion: Strong, $r < v$. *Pleochroism:* Weak in shades of olive green.

Cell Data: *Space Group:* P2₁/c. $a = 4.8216(3)$ $b = 7.6985(4)$ $c = 10.1362(6)$ $\beta = 90.234(4)^\circ$ $Z = 2$

X-ray Powder Pattern: Malmkärä mine, south-central Sweden.

2.888 (100), 4.830 (72), 3.191 (52), 2.607 (49), 3.603 (37), 3.097 (35), 2.412 (24)

Chemistry:	(1)	(2)		(1)	(2)
SiO ₂	21.77	20.77	Ho ₂ O ₃	0.18	
Y ₂ O ₃	5.49		Er ₂ O ₃	0.38	
La ₂ O ₃	2.78		MgO	0.51	
Ce ₂ O ₃	14.04		CaO	0.14	
Pr ₂ O ₃	3.28		MnO	0.10	
Nd ₂ O ₃	19.27	58.16	FeO	10.62	12.42
Sm ₂ O ₃	5.30		BeO	[8.99]	8.65
Eu ₂ O ₃	0.24		B ₂ O ₃	0.10	
Gd ₂ O ₃	4.10		H ₂ O	[0.55]	
Tb ₂ O ₃	0.36		Total	99.52	100.00
Dy ₂ O ₃	1.32				

(1) Malmkärä mine, south-central Sweden; average of 11 electron microprobe analyses and laser ablation inductively coupled plasma mass spectrometry supplemented by Raman spectroscopy, H₂O calculated for charge balance, BeO from stoichiometry; corresponds to (Nd_{0.63}Ce_{0.47}Y_{0.27}Sm_{0.17}Gd_{0.13}Pr_{0.11}La_{0.09}Dy_{0.04}Ca_{0.01}Er_{0.01}Tb_{0.01}Eu_{0.01}Ho_{0.01}) $\Sigma=1.96$ (Fe_{0.82}Mg_{0.07}Mn_{0.01}) $\Sigma=0.89$ (Be_{1.98}B_{0.02}) $\Sigma=2.00$ Si₂O_{9.66}(OH)_{0.34}. (2) Nd₂Fe²⁺Be₂O₂(SiO₄)₂.

Mineral Group: Gadolinite supergroup, gadolinite subgroup.

Occurrence: In Fe-REE “Bastnäs-type” polymetallic skarn deposits.

Association: Fluorbritholite-(Ce), västmanlandite-(Ce), dollaseite-(Ce), bastnäsite-(Ce), tremolite.

Distribution: At the Malmkärä mine [TL], ~3.5 km west-southwest of Norberg, as well as at the Johanna and Nya Bastnäs mines, south-central Sweden.

Name: Suffix indicates the Nd-dominant member of the *gadolinite* subgroup.

Type Material: Moravian Museum, Brno, Czech Republic (B 11298).

References: (1) Škoda, R., J. Plášil, R. Čopjaková, M. Novák, E. Jonsson, M. Vašinová Galiová, and D. Holtstam (2018) Gadolinite-(Nd), a new member of the gadolinite supergroup from Fe-REE deposits of Bastnäs-type, Sweden. *Mineral. Mag.*, 82(S1), S133-S145. (2) (2021) *Amer. Mineral.*, 106, 161 (abs. ref. 1).