

Crystal Data: Orthorhombic. *Point Group:* 2/m 2/m 2/m. As tabular aggregates or rhombic dipyramidal crystals to 10 μm .

Physical Properties: *Cleavage:* n.d. *Fracture:* n.d. *Tenacity:* n.d. Hardness = n.d. D(meas.) = n.d. D(calc.) = 4.77 Readily soluble with effervescence in dilute HCl.

Optical Properties: Translucent. *Color:* Pale pinkish purple to white. *Streak:* n.d. *Luster:* Vitreous to dull.

Optical Class: Biaxial. $\alpha = 1.698(2)$ $\gamma = 1.780(5)$

Cell Data: *Space Group:* Pmcn. $a = 4.9829(1)$ $b = 8.5188(2)$ $c = 7.2570(2)$ $Z = 4$

X-ray Powder Pattern: Niikoba, Hizen-cho, Higashi Matsuura-gun, Saga Prefecture, Japan. 4.29 (100), 2.93 (89), 2.333 (78), 2.060 (78), 1.994 (75), 3.69 (72), 2.640 (59)

Chemistry:	(1)	(2)
La ₂ O ₃	21.39	
Ce ₂ O ₃	0.26	
Pr ₂ O ₃	6.25	
Nd ₂ O ₃	30.66	76.04
Sm ₂ O ₃	5.39	
Eu ₂ O ₃	1.84	
Gd ₂ O ₃	2.99	
Tb ₂ O ₃	0.11	
Dy ₂ O ₃	0.24	
Y ₂ O ₃	0.70	
CaO	0.49	
CO ₂	21.10	19.89
H ₂ O	5.44	4.07
Total	96.86	100.00

(1) Niikoba, Hizen-cho, Higashi Matsuura-gun, Saga Prefecture, Japan; average electron microprobe and CHN analyses supplemented by FTIR spectroscopy; corresponding to

(Nd_{0.85}La_{0.61}Pr_{0.18}Sm_{0.14}Gd_{0.08}Eu_{0.05}Ca_{0.04}Y_{0.03}Ce_{0.01}Dy_{0.01})_{Σ=2}C_{2.24}H_{2.82}O_{8.88}. (2) Nd(CO₃)(OH).

Polymorphism & Series: Dimorphous with hydroxylbastnäsité-(Nd).

Mineral Group: Ancyrite group.

Occurrence: By post-magmatic hydrothermal activity in cavities and fissures in alkali olivine basalt.

Association: Kozoite-(Nd), lanthanite-(Nd), lanthanite-(La), kimuraite-(Y).

Distribution: From Niikoba, Hizen-cho, Higashi Matsuura-gun, Saga Prefecture, Japan.

Name: Honors Kozo Nagashima (1925-1985), a Japanese chemist, for his contributions to the mineralogy, chemistry, and crystallography of rare earth minerals.

Type Material: National Science Museum, Tokyo, Japan (NSM-M27940).

References: (1) Miyawaki, R., S. Matsubara, K. Yokoyama, K. Takeuchi, Y. Terada, and I. Nakai (2000) Kozoite-(Nd), Nd(CO₃)(OH), a new mineral in an alkali olivine basalt from Hizen-cho, Saga Prefecture, Japan. *Amer. Mineral.*, 85(7-8), 1076-1081. (2) Tahara, T., I. Nakai, R. Miyawaki, and S. Matsubara (2007) Crystal chemistry of RE(CO₃)OH. *Zeitschrift Kristal.*, 222, 326-334.