Belovite-(La) NaSr₃(La, Ce)(PO₄)₃(F, OH)

Crystal Data: Hexagonal. Point Group: 3. Prismatic crystals, to 3 cm, with large \{10\overline{1}0\}, \{10\overline{1}1\}, \{00\overline{1}1\}, \{11\overline{2}0\}, \{11\overline{2}1\}, \{11\overline{2}2\}; may be granular.

Physical Properties: Fracture: Conchoidal. Tenacity: Very brittle. Hardness = \~5 VHN = 450 (30 g load). D(meas.) = 4.19 D(calc.) = 4.05


Cell Data: Space Group: \(P\overline{3}\). \(a = 9.647(1)\) \(c = 7.170(1)\) \(Z = 2\)

X-ray Powder Pattern: Mt. Kukisvumchorr, Kola Peninsula, Russia; close to belovite-(Ce). 2.897 (100), 2.884 (100), 3.59 (87), 3.30 (65), 2.790 (54), 1.910 (36), 1.796 (36)

Chemistry:

\[
\begin{array}{ccc}
\text{SO}_3 & 0.03 & \text{Gd}_2\text{O}_3 & 0.01 \\
\text{P}_2\text{O}_5 & 28.30 & \text{Y}_2\text{O}_3 & 0.01 \\
\text{SiO}_2 & 0.24 & \text{CaO} & 0.50 \\
\text{ThO}_2 & 0.43 & \text{SrO} & 40.09 \\
\text{La}_2\text{O}_3 & 13.08 & \text{BaO} & 2.35 \\
\text{Ce}_2\text{O}_3 & 8.15 & \text{Na}_2\text{O} & 4.09 \\
\text{Pr}_2\text{O}_3 & 0.30 & \text{F} & 2.04 \\
\text{Nd}_2\text{O}_3 & 0.30 & \text{H}_2\text{O} & 0.22 \\
\text{Sm}_2\text{O}_3 & 0.03 & \overline{\text{O}} = \text{F}_2 & 0.86 \\
\hline
\text{Total} & 99.31
\end{array}
\]

(1) Mt. Kukisvumchorr, Kola Peninsula, Russia; by electron microprobe, H₂O by the Penfield method; corresponds to \(\text{Na}_{0.98}(\text{Sr}_{2.86}\text{Ba}_{0.12}\text{Ca}_{0.06})\Sigma=3.04(\text{La}_{0.59}\text{Ce}_{0.37}\text{Pr}_{0.01}\text{Nd}_{0.01}\text{Th}_{0.01})\Sigma=0.99

\text{[(P}_{2.95}\text{Si}_{0.03})\Sigma=2.98\text{O}_{3.39}]_3[\text{F}_{0.89}(\text{OH})_{0.18}]\Sigma=0.98.\)

Mineral Group: Apatite group.

Occurrence: In natrolite veinlets in pegmatites in a differentiated alkaline massif.

Association: Gaidonnayite, gerasimovskite, lamprophyllite, murmanite, aegirine, pectolite, microcline, natrolite.

Distribution: Found in the Kirov apatite mine, Mt. Kukisvumchorr, and on Mt. Eveslogchorr, Khibiny massif, Kola Peninsula, Russia.

Name: For lanthanum dominant over cerium and its relation to belovite-(Ce).

Type Material: Mining Institute, St. Petersburg, 3026/24; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, p1523.


All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise without the prior written permission of Mineral Data Publishing.