

Bakerite

©2001 Mineral Data Publishing, version 1.2

Crystal Data: Monoclinic. *Point Group:* $2/m$. Rarely as single crystals, to 0.2 mm, stout, rhombic prisms having oblique terminations or as thin diamond-shaped tablets. As botryoidal and drusy crusts and nodules; most commonly as dense fine-grained aggregates or massive.

Physical Properties: Hardness = 4.5 D(meas.) = 2.88 D(calc.) = 2.94

Optical Properties: Translucent to opaque from clay inclusions. *Color:* Colorless to white. *Luster:* Vitreous to porcelaneous.

Optical Class: Biaxial (-). *Orientation:* $Y = b$; $Z \wedge c = 44^\circ$. $\alpha = 1.624$ $\beta = 1.635$ $\gamma = 1.654$ $2V(\text{meas.}) = 87^\circ\text{--}88^\circ$

Cell Data: *Space Group:* $P2_1/c$. $a = 4.83$ $b = 7.60$ $c = 9.60$ $\beta = 90^\circ 2'$ $Z = [1]$

X-ray Powder Pattern: Sterling Borax mine, California, USA.
3.11 (100), 2.85 (60), 2.236 (60), 3.74 (50), 2.51 (50), 2.18 (50), 2.99 (40)

Chemistry:

	(1)	(2)
SiO ₂	27.90	28.90
B ₂ O ₃	27.58	27.91
CaO	35.14	35.97
H ₂ O ⁺	8.60	7.22
H ₂ O ⁻	0.30	
rem.	0.65	
Total	100.17	100.00

(1) Corkscrew Canyon, Death Valley, California, USA; remainder is oxides of trivalent elements.

(2) $\text{Ca}_4\text{B}_4(\text{BO}_4)(\text{SiO}_4)_3(\text{OH})_3 \cdot \text{H}_2\text{O}$.

Mineral Group: Gadolinite group.

Occurrence: As irregular veins in altered volcanic rock (Baker Canyon, Death Valley, California, USA).

Association: Natrolite, thomsonite (Baker Canyon, Death Valley, California, USA); danburite, calcite, stilbite, datolite, quartz (Charcas, Mexico).

Distribution: In the USA, in California, the mineral probably never occurred at the type locality given as "16 miles northeast of Daggett" which is Borate, 14 km east of Yermo, San Bernardino Co.; it more likely was from later authenticated localities in the Black Mountains, west of Furnace Creek, Death Valley, Inyo Co.; also in the Sterling Borax mine, Tick Canyon, Los Angeles Co. Found near Tory Hill, Bancroft, Ontario, Canada. At Charcas, San Luis Potosí, Mexico. From Sivas, Turkey. In Italy, from near Sestri Levante, Liguria.

Name: To honor Richard C. Baker, of Nutfield, Surrey, England, Mining Director of the Pacific Coast Borax Co., who discovered the mineral.

Type Material: The Natural History Museum, London, England, 86511; Harvard University, Cambridge, Massachusetts, 92735; National Museum of Natural History, Washington, D.C., USA, 94820.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 363. (2) Kramer, H. and R.D. Allen (1956) A restudy of bakerite, priceite, and veatchite. *Amer. Mineral.*, 41, 689–700. (3) Murdoch, J. (1962) Bakerite crystals. *Amer. Mineral.*, 47, 919–923. (4) Pemberton, H.E. (1971) Type locality for bakerite. *Amer. Mineral.*, 56, 1109–1110.

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.