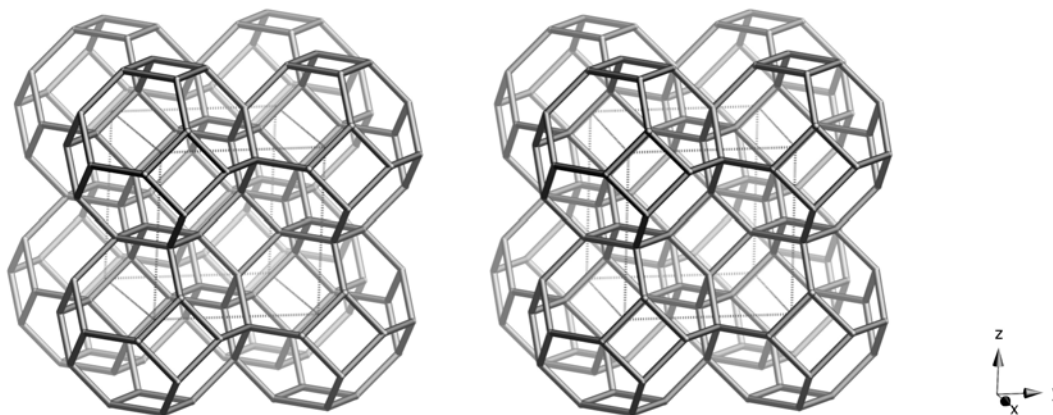


Framework Type Data



framework viewed along [100]

Idealized cell data: cubic, $Im\bar{3}m$, $a = 9.0\text{\AA}$

Coordination sequences and vertex symbols:

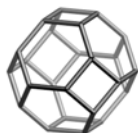
$T_1(12, \bar{4}2m)$ 4 10 20 34 52 74 100 130 164 202 4-4-6-6-6-6

Secondary building units: 6

Framework description: ABC sequence of 6-rings

Composite building units:

sod



Materials with this framework type:

*Sodalite^(1,2)

[Al-Co-P-O]-SOD⁽³⁾

[Al-Ga-Si-Ge-O]-SOD⁽⁴⁾

[Al-Ge-O]-SOD^(5,6)

[Be-Al-Si-O]-SOD⁽⁷⁾

[Be-As-O]-SOD⁽⁸⁾

[Be-Ge-O]-SOD⁽⁹⁾

[Be-P-O]-SOD⁽⁸⁾

[Be-Si-O]-SOD^(9,10)

[Co-Ga-P-O]-SOD^(3,11)

[Ga-Ge-O]-SOD⁽⁶⁾

[Ga-Si-O]-SOD⁽¹²⁾

[Zn-Al-As-O]-SOD⁽¹³⁾

[Zn-As-O]-SOD⁽¹⁴⁾

[Zn-Ga-As-O]-SOD^(11,13)

[Zn-Ga-P-O]-SOD⁽¹¹⁾

[Zn-P-O]-SOD⁽¹⁴⁾

[Zn-Si-O]-SOD⁽¹⁵⁾

$ICa_8(WO_4)_2[Al_{12}O_{24}]$ -SOD⁽¹⁶⁾

AlPO-20 plus variants^(17,18)

Basic sodalite^(19,20)

Bicchulite⁽²¹⁾

Danalite⁽²²⁾

G⁽²³⁾

Genthelvite⁽²⁴⁾

Hauyn⁽²⁵⁾

Helvin⁽²²⁾

Hydroxo sodalite⁽²⁶⁾

Nosean⁽²⁷⁾

SIZ-9⁽²⁸⁾

Silica sodalite⁽²⁹⁾

TMA sodalite⁽³⁰⁾

Tugtupite^(31,32)

Type Material: Sodalite

Type Material Data

Crystal chemical data:	$\text{[Na}_8\text{Cl}_2\text{] [Al}_6\text{Si}_6\text{O}_{24}\text{]-SOD}$ cubic, $P\bar{4}3n$, $a = 8.870\text{\AA}$ ⁽²⁾
Framework density:	17.2 T/1000 \AA^3
Channels:	apertures formed by 6-rings only

References:

- (1) Pauling, L. *Z. Kristallogr.*, **74**, 213-225 (1930)
- (2) Loens, J. and Schulz, H. *Acta Crystallogr.*, **23**, 434-436 (1967)
- (3) Feng, P., Bu, X. and Stucky, G.D. *Nature*, **388**, 735-741 (1997)
- (4) Johnson, G.M., Mead, P.J. and Weller, M.T. *Microporous Mesoporous Mat.*, **38**, 445-460 (2000)
- (5) Wiebcke, M., Sieger, P., Felsche, J., Engelhardt, G., Behrens, P. and Schefer, J. *Z. anorg. allg. Chemie*, **619**, 1321-1329 (1993)
- (6) Bu, X., Feng, P., Gier, T.E., Zhao, D. and Stucky, G.D. *J. Am. Chem. Soc.*, **120**, 13389-13397 (1998)
- (7) Armstrong, J.A. and Weller, M.T. *J. Chem. Soc., Dalton Trans.*, 2998-3005 (2006)
- (8) Gier, T.E., Harrison, W.T.A. and Stucky, G.D. *Angew. Chem., Int. Ed.*, **30**, 1169-1171 (1991)
- (9) Dann, S.E., Weller, M.T., Rainford, B.D. and Adroja, D.T. *Inorg. Chem.*, **36**, 5278-5283 (1997)
- (10) Dann, S.E. and Weller, M.T. *Inorg. Chem.*, **35**, 555-558 (1996)
- (11) Bu, X., Gier, T.E., Feng, P. and Stucky, G.D. *Microporous Mesoporous Mat.*, **20**, 371-379 (1998)
- (12) McCusker, L.B., Meier, W.M., Suzuki, K. and Shin, S. *Zeolites*, **6**, 388-391 (1986)
- (13) Feng, P., Zhang, T. and Bu, X. *J. Am. Chem. Soc.*, **123**, 8608-8609 (2001)
- (14) Nenoff, T.M., Harrison, W.T.A., Gier, T.E. and Stucky, G.D. *J. Am. Chem. Soc.*, **113**, 378-379 (1991)
- (15) Cambor, M.A., Lobo, R.F., Koller, H. and Davis, M.E. *Chem. Mater.*, **6**, 2193-2199 (1994)
- (16) Depmeier, W. *Acta Crystallogr.*, **C40**, 226-231 (1984)
- (17) Wilson, S.T., Lok, B.M., Messina, C.A., Cannan, T.R. and Flanigen, E.M. *J. Am. Chem. Soc.*, **104**, 1146-1147 (1982)
- (18) Flanigen, E.M., Lok, B.M., Patton, R.L. and Wilson, S.T. *Proc. 7th Int. Zeolite Conf.*, pp. 103-112 (1986)
- (19) Barrer, R.M. and White, E.A.D. *J. Chem. Soc.*, 1267-1278 (1951)
- (20) Hassan, I. and Grundy, H.D. *Acta Crystallogr.*, **C39**, 3-5 (1983)
- (21) Sahl, K. and Chatterjee, N.D. *Z. Kristallogr.*, **146**, 35-41 (1977)
- (22) Glass, J.J., Jahns, R.H. and Stevens, R.E. *Am. Mineral.*, **29**, 163-191 (1944)
- (23) Shishakova, T.N. and Dubinin, M.M. *Izv. Akad. Nauk SSSR*, 1303- (1965)
- (24) Merlino, S. *Feldspars and Feldspathoids*, pp. 435-470 (1983)
- (25) Loehn, J. and Schulz, H. *N. Jb. Miner. Abh.*, **109**, 201-210 (1968)
- (26) Felsche, J., Luger, S. and Baerlocher, Ch. *Zeolites*, **6**, 367-372 (1986)
- (27) Schulz, H. and Saalfeld, H. *Tschermaks Min. Petr. Mitt.*, **10**, 225-232 (1965)
- (28) Parnham, E.R. and Morris, R.E. *J. Am. Chem. Soc.*, **128**, 2204-2205 (2006)
- (29) Bibby, D.M. and Dale, M.P. *Nature*, **317**, 157-158 (1985)
- (30) Baerlocher, Ch. and Meier, W.M. *Helv. Chim. Acta*, **52**, 1853-1860 (1969)
- (31) Sorensen, H. *Am. Mineral.*, **48**, 1178 (1963)
- (32) Hassan, I. and Grundy, H.D. *Can. Mineral.*, **29**, 385-390 (1991)