

Silicic acid (H₄SiO₄), tetrabutyl ester

Other names:

Butyl silicate ((BuO)₄Si)
Butyl silicate ((C₄H₉O)₄Si)
CT1750
NSC 89762
Silane, tetrabutoxy-
Silicic acid, tetrabutyl ester
Silicon tetrabutoxide
T1750
Tetra-n-butoxysilane
Tetrabutoxysilane
Tetrabutyl orthosilicate
Tetrabutyl silicate
tetra-n-Butyl orthosilicate

Inchi: InChI=1S/C16H36O4Si/c1-5-9-13-17-21(18-14-10-6-2,19-15-11-7-3)20-16-12-8-4/h5-16H**InchiKey:** UQMOLLPKNHFRAC-UHFFFAOYSA-N**Formula:** C₁₆H₃₆O₄Si**SMILES:** CCCCC[Si](OCCCC)(OCCCC)OCCCC**Mol. weight [g/mol]:** 320.54**CAS:** 4766-57-8

Physical Properties

Property code	Value	Unit	Source
hvap	52.00 ± 1.00	kJ/mol	NIST Webbook
log10ws	-2.67		Crippen Method
logp	4.689		Crippen Method
pc	1100.00	kPa	Vapor-Liquid Critical Properties of Some Tetraalkoxysilanes
rinpol	1488.00		NIST Webbook
rinpol	1488.00		NIST Webbook
rinpol	1490.00		NIST Webbook
rinpol	1480.00		NIST Webbook
rinpol	1483.20		NIST Webbook
rinpol	1488.00		NIST Webbook

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpl	580.20	J/mol×K	298.15	NIST Webbook
hvapt	79.60	kJ/mol	406.00	NIST Webbook

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	393.00	K	0.40	NIST Webbook

Sources

Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci9903071
Crippen Method:	https://www.cheméo.com/doc/models/crippen_log10ws
Vapor-Liquid Critical Properties of Some Tetraalkoxysilanes:	https://www.doi.org/10.1021/je800086s
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C4766578&Units=SI

Legend

cpl:	Liquid phase heat capacity
hvap:	Enthalpy of vaporization at standard conditions
hvapt:	Enthalpy of vaporization at a given temperature
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
pc:	Critical Pressure
rinpol:	Non-polar retention indices
tbrp:	Boiling point at reduced pressure

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