

# Trisiloxane, octamethyl-

<b>Other names:</b>	1,1,1,3,3,5,5,5-Octamethyltrisiloxane CO9816 Dimethylbis(trimethylsiloxy)silane O9816 Silane, dimethylbis(trimethylsiloxy)- [(CH <sub>3</sub> ) <sub>3</sub> SiO] <sub>2</sub> Si(CH <sub>3</sub> ) <sub>2</sub> octamethyltrisiloxane
<b>Inchi:</b>	InChI=1S/C8H24O2Si3/c1-11(2,3)9-13(7,8)10-12(4,5)6/h1-8H3
<b>InchiKey:</b>	CXQXSVUQTKDNFP-UHFFFAOYSA-N
<b>Formula:</b>	C <sub>8</sub> H <sub>24</sub> O <sub>2</sub> Si <sub>3</sub>
<b>SMILES:</b>	C[Si](C)(C)O[Si](C)(C)O[Si](C)(C)C
<b>Mol. weight [g/mol]:</b>	236.53
<b>CAS:</b>	107-51-7

## Physical Properties

Property code	Value	Unit	Source
ie	10.04	eV	NIST Webbook
log10ws	3.92		Crippen Method
logp	3.391		Crippen Method
rinpol	1031.00		NIST Webbook
rinpol	1034.00		NIST Webbook
rinpol	1034.00		NIST Webbook
rinpol	1038.00		NIST Webbook
rinpol	1038.00		NIST Webbook
rinpol	1031.00		NIST Webbook
volm	2.90e-04	m <sup>3</sup> /mol	Thermodynamic Study of Heptane + Silicone Mixtures. Excess Volumes and Enthalpies at 298.15 K

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
hvapt	43.20	kJ/mol	396.00	NIST Webbook

## Datasets

### Speed of sound, m/s

Temperature, K - Liquid	Pressure, kPa - Liquid	Speed of sound, m/s - Liquid
299.62	101.00	911.32
299.63	502.00	914.41
299.64	984.00	918.29
299.64	1480.00	922.14
299.65	2012.00	926.38
299.66	3441.00	937.36
299.69	5923.00	955.8
299.61	10196.00	986.47
299.68	20155.00	1050.26
299.71	30179.00	1107.31
349.91	111.00	742.97
349.69	558.00	748.58
349.65	1075.00	754.2
349.60	1556.00	759.34
349.59	2066.00	764.64
349.58	3704.00	781.0
349.61	6067.00	803.25
349.59	10127.00	839.26
349.61	20075.00	915.62
349.64	29800.00	980.01
399.96	508.00	588.68
399.96	993.00	595.83
399.96	1439.00	602.33
399.95	2018.00	610.77
399.96	3510.00	630.8
400.02	9928.00	704.99
400.15	19875.00	796.17
399.42	29701.00	873.39
449.99	492.00	436.7
449.96	1045.00	448.89
449.98	1523.00	458.69
450.01	1994.00	468.09

450.05	3497.00	495.73
450.09	6009.00	536.6
450.14	9983.00	591.45
450.22	20246.00	701.94
449.44	23518.00	734.5
499.04	1000.00	292.6
499.02	1521.00	313.47
498.96	1989.00	328.83
498.94	3487.00	373.05
499.00	5834.00	424.21
499.02	10178.00	498.23
499.05	16859.00	585.07
549.79	4484.00	279.71
549.74	6653.00	340.31
549.80	10050.00	411.61
549.84	12528.00	452.26
549.67	15312.00	492.6

Reference

<https://www.doi.org/10.1021/acs.jced.7b00092>

## Sources

Bubble-Point Measurements and Modeling of Binary Mixtures of Linear Siloxanes. *Journal of Chemical Engineering Data*, 2008, 53(1), 1-15 K:

<https://www.doi.org/10.1021/acs.jced.8b00200>

Shoemaker, J. W. Dynamic Study of Heptane + Silicone Mixtures. Excess Volumes and Heat of Vaporization.

<https://www.doi.org/10.1021/je2007378>

Crippen Method:

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C107517&Units=SI>

Crippen Method:

<http://pubs.acs.org/doi/abs/10.1021/ci9903071>

Speed of Sound Measurements and Fundamental Equations of State for Octamethyltrisiloxane and Decamethyltetrasiloxane:

[https://www.chemeo.com/doc/models/crippen\\_log10ws](https://www.chemeo.com/doc/models/crippen_log10ws)

<https://www.doi.org/10.1021/acs.jced.7b00092>

## Legend

hvapt:	Enthalpy of vaporization at a given temperature
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
rinpol:	Non-polar retention indices
speedsl:	Speed of sound in fluid
volm:	Molar Volume

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