

Silane, tetraethyl-

Other names:	(C2H5)4Si Tetraethylsilane Tetraethylsilicon
Inchi:	InChI=1S/C8H20Si/c1-5-9(6-2,7-3)8-4/h5-8H2,1-4H3
InchiKey:	VCZQFJFZMMALHB-UHFFFAOYSA-N
Formula:	C8H20Si
SMILES:	CC[Si](CC)(CC)CC
Mol. weight [g/mol]:	144.33
CAS:	631-36-7

Physical Properties

Property code	Value	Unit	Source
hvap	39.00 ± 0.70	kJ/mol	NIST Webbook
ie	10.50	eV	NIST Webbook
ie	9.80	eV	NIST Webbook
ie	8.90	eV	NIST Webbook
log10ws	-0.64		Crippen Method
logp	3.515		Crippen Method
pc	2400.00 ± 20.00	kPa	NIST Webbook
rhoc	245.36 ± 2.89	kg/m3	NIST Webbook
rinpol	923.50		NIST Webbook
rinpol	922.00		NIST Webbook
rinpol	922.00		NIST Webbook
tb	426.00 ± 5.00	K	NIST Webbook
tc	606.00 ± 0.40	K	NIST Webbook
tf	189.36 ± 0.20	K	NIST Webbook
tt	190.60 ± 0.20	K	NIST Webbook

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpl	297.70	J/mol×K	298.15	NIST Webbook
cpl	298.10	J/mol×K	298.15	NIST Webbook
hfust	13.41	kJ/mol	190.60	NIST Webbook

hfust	13.01	kJ/mol	189.40	NIST Webbook
hfust	13.01	kJ/mol	189.36	NIST Webbook
hfust	13.01	kJ/mol	189.40	NIST Webbook
hvapt	43.30	kJ/mol	349.00	NIST Webbook
sfust	70.40	J/mol×K	190.60	NIST Webbook
sfust	68.70	J/mol×K	189.36	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.48401e+01
Coeff. B	-4.03149e+03
Coeff. C	-3.15970e+01
Temperature range (K), min.	308.63
Temperature range (K), max.	454.69

Sources

Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C631367&Units=SI
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l

Legend

cpl:	Liquid phase heat capacity
hfust:	Enthalpy of fusion at a given temperature
hvap:	Enthalpy of vaporization at standard conditions
hvapt:	Enthalpy of vaporization at a given temperature
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
pc:	Critical Pressure

pvap:	Vapor pressure
rhoc:	Critical density
rinpol:	Non-polar retention indices
sfust:	Entropy of fusion at a given temperature
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature

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