

Silane, chlorotrimethyl-

Other names:	(CH ₃) ₃ SiCl Chlorotrimethylsilane KA 31 Monochlorotrimethylsilane Monochlorotrimethylsilicon NSC 15750 Silane, trimethylchloro- Silicane, chlorotrimethyl- Silylium, trimethyl-, chloride TL 1163 TSL 8031 Trimethylchlorosilane Trimethylsilane chloride Trimethylsilyl chloride UN 1298
Inchi:	InChI=1S/C3H9ClSi/c1-5(2,3)4/h1-3H3
InchiKey:	IJOHPMOJXWVHK-UHFFFAOYSA-N
Formula:	C ₃ H ₉ ClSi
SMILES:	C[Si](C)(C)Cl
Mol. weight [g/mol]:	108.64
CAS:	75-77-4

Physical Properties

Property code	Value	Unit	Source
ie	10.83 ± 0.02	eV	NIST Webbook
ie	10.65 ± 0.02	eV	NIST Webbook
ie	10.83 ± 0.02	eV	NIST Webbook
ie	10.83 ± 0.02	eV	NIST Webbook
ie	9.90 ± 0.10	eV	NIST Webbook
ie	10.58 ± 0.04	eV	NIST Webbook
ie	10.71	eV	NIST Webbook
ie	10.84	eV	NIST Webbook
ie	10.76	eV	NIST Webbook
log10ws	0.72		Crippen Method
logp	2.060		Crippen Method
pc	3200.00 ± 11.14	kPa	NIST Webbook
rhoc	296.59 ± 3.26	kg/m ³	NIST Webbook

rinpol	553.00		NIST Webbook
rinpol	552.40		NIST Webbook
rinpol	560.00		NIST Webbook
rinpol	560.00		NIST Webbook
rinpol	555.00		NIST Webbook
rinpol	555.00		NIST Webbook
rinpol	552.00		NIST Webbook
rinpol	560.00		NIST Webbook
sl	275.10	J/molxK	NIST Webbook
tb	330.00	K	NIST Webbook
tb	331.00 ± 3.00	K	NIST Webbook
tb	330.85 ± 0.50	K	NIST Webbook
tb	330.75 ± 0.50	K	NIST Webbook
tc	497.80 ± 0.30	K	NIST Webbook
tf	233.00 ± 5.00	K	NIST Webbook
tt	217.97 ± 0.02	K	NIST Webbook

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpl	187.50	J/molxK	298.15	NIST Webbook
hfust	9.68	kJ/mol	218.00	NIST Webbook
hfust	0.70	kJ/mol	185.10	NIST Webbook
hfust	9.68	kJ/mol	218.00	NIST Webbook
hvapt	30.80	kJ/mol	299.50	NIST Webbook
hvapt	30.20	kJ/mol	302.50	NIST Webbook
sfust	3.75	J/molxK	185.10	NIST Webbook
sfust	44.42	J/molxK	218.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.41647e+01
Coeff. B	-2.77060e+03
Coeff. C	-3.97750e+01
Temperature range (K), min.	235.35

Sources

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/ci9903071
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
High-pressure phase equilibria for chlorosilane + carbon dioxide	https://www.doi.org/10.1016/j.fluid.2008.06.017
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C75774&Units=SI

Legend

cpl:	Liquid phase heat capacity
hfust:	Enthalpy of fusion at a given temperature
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
sl:	Liquid phase molar entropy at standard conditions
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature

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