

Tetradecanal

Other names:	1-Tetradecanal 1-Tetradecyl aldehyde 511542-15-7 Aldehyde C-14 Aldehyde C-14, myristic C-14 Aldehyde, myristic Myristaldehyde Myristic aldehyde Myristylaldehyde NSC 66435 Tetradecylaldehyde n-Tetradecanal n-Tetradecyl aldehyde
Inchi:	InChI=1S/C14H28O/c1-2-3-4-5-6-7-8-9-10-11-12-13-14-15/h14H,2-13H2,1H3
InchiKey:	UHUFTBALEZWWIH-UHFFFAOYSA-N
Formula:	C14H28O
SMILES:	CCCCCCCCCCCCCCC=O
Mol. weight [g/mol]:	212.37
CAS:	124-25-4

Physical Properties

Property code	Value	Unit	Source
gf	-32.52	kJ/mol	Joback Method
hf	-417.87	kJ/mol	Joback Method
hfus	34.30	kJ/mol	Joback Method
hvap	77.40 ± 0.40	kJ/mol	NIST Webbook
hvap	80.20	kJ/mol	NIST Webbook
log10ws	-4.96		Crippen Method
logp	4.886		Crippen Method
mcvol	209.690	ml/mol	McGowan Method
pc	1615.47	kPa	Joback Method
rinpol	1584.00		NIST Webbook
rinpol	1588.00		NIST Webbook
rinpol	1610.00		NIST Webbook
rinpol	1592.00		NIST Webbook
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ripol	1900.00		NIST Webbook
tb	568.38	K	Joback Method
tc	733.10	K	Joback Method
tf	296.00 ± 4.00	K	NIST Webbook
tf	296.70 ± 3.00	K	NIST Webbook
tf	325.70 ± 2.00	K	NIST Webbook
tf	295.70 ± 2.00	K	NIST Webbook
tf	298.00 ± 5.00	K	NIST Webbook
vc	0.837	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	537.24	J/mol×K	568.38	Joback Method
cpg	554.08	J/mol×K	595.83	Joback Method
cpg	570.23	J/mol×K	623.29	Joback Method
cpg	585.72	J/mol×K	650.74	Joback Method
cpg	600.55	J/mol×K	678.19	Joback Method
cpg	614.74	J/mol×K	705.64	Joback Method
cpg	628.33	J/mol×K	733.10	Joback Method
dvisc	0.0046389	Pa×s	289.54	Joback Method
dvisc	0.0019435	Pa×s	336.01	Joback Method
dvisc	0.0010059	Pa×s	382.49	Joback Method
dvisc	0.0006005	Pa×s	428.96	Joback Method
dvisc	0.0003965	Pa×s	475.43	Joback Method
dvisc	0.0002819	Pa×s	521.91	Joback Method
dvisc	0.0002119	Pa×s	568.38	Joback Method
hvapt	63.40	kJ/mol	471.50	NIST Webbook

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	439.20	K	3.20	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.46451e+01
Coeff. B	-4.76181e+03
Coeff. C	-9.57600e+01
Temperature range (K), min.	427.42
Temperature range (K), max.	605.94

Sources

Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C124254&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

cpg:	Ideal gas heat capacity
dvisc:	Dynamic viscosity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
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
mccvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
rinpol:	Non-polar retention indices
ripol:	Polar retention indices

tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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