

9-Octadecenal, (Z)-

Other names:

Olealdehyde
Oleylaldehyde
Z-9-Octadecenal
cis-9-Octadecenal

Inchi:

InChI=1S/C18H34O/c1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19/h9-10,18H,2-8,1

InchiKey:

ZENZJGDPWWLORF-KTKRTIGZSA-N

Formula:

C18H34O

SMILES:

CCCCCCCCC=CCCCCCCCC=O

Mol. weight [g/mol]:

266.46

CAS:

2423-10-1

Physical Properties

Property code	Value	Unit	Source
gf	81.38	kJ/mol	Joback Method
hf	-383.21	kJ/mol	Joback Method
hfus	44.87	kJ/mol	Joback Method
hvap	62.34	kJ/mol	Joback Method
log10ws	-6.49		Crippen Method
logp	6.223		Crippen Method
mcvol	261.750	ml/mol	McGowan Method
pc	1257.48	kPa	Joback Method
rinpol	1995.00		NIST Webbook
rinpol	2010.00		NIST Webbook
rinpol	2019.00		NIST Webbook
ripol	2693.00		NIST Webbook
ripol	2693.00		NIST Webbook
ripol	2693.00		NIST Webbook
tb	664.06	K	Joback Method
tc	833.01	K	Joback Method
tf	329.54	K	Joback Method
vc	1.040	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	735.71	J/mol×K	664.06	Joback Method
cpg	754.04	J/mol×K	692.22	Joback Method
cpg	771.55	J/mol×K	720.38	Joback Method
cpg	788.27	J/mol×K	748.54	Joback Method
cpg	804.25	J/mol×K	776.70	Joback Method
cpg	819.50	J/mol×K	804.85	Joback Method
cpg	834.07	J/mol×K	833.01	Joback Method
dvisc	0.0032761	Paxs	329.54	Joback Method
dvisc	0.0012611	Paxs	385.29	Joback Method
dvisc	0.0006179	Paxs	441.05	Joback Method
dvisc	0.0003554	Paxs	496.80	Joback Method
dvisc	0.0002285	Paxs	552.55	Joback Method
dvisc	0.0001593	Paxs	608.31	Joback Method
dvisc	0.0001180	Paxs	664.06	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.49713e+01
Coeff. B	-5.37179e+03
Coeff. C	-1.16888e+02
Temperature range (K), min.	482.72
Temperature range (K), max.	672.98

Sources

NIST Webbook:

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C2423101&Units=SI>

The Yaws Handbook of Vapor

<https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure>

**Pressure:
Crippen Method:**

<http://pubs.acs.org/doi/abs/10.1021/ci990307l>

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>

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
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
rinpolar:	Non-polar retention indices
ripolar:	Polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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