

2-Decenal, (E)-

Other names:	(E)-2-Decenal (E)-Dec-2-en-1-al (E)-Dec-2-enal 2(E)-Decenal Dec-(E)-2-enal Dec-2(E)-enal Dec-2-enal, (E) trans-2-Decenal trans-Dec-2-enal
Inchi:	InChI=1S/C10H18O/c1-2-3-4-5-6-7-8-9-10-11/h8-10H,2-7H2,1H3/b9-8+
InchiKey:	MMFCJPPRCYDLLZ-CMDGGOBGSA-N
Formula:	C10H18O
SMILES:	CCCCCCC=CC=O
Mol. weight [g/mol]:	154.25
CAS:	3913-81-3

Physical Properties

Property code	Value	Unit	Source
gf	14.02	kJ/mol	Joback Method
hf	-218.09	kJ/mol	Joback Method
hfus	24.15	kJ/mol	Joback Method
hvap	44.53	kJ/mol	Joback Method
log10ws	-3.14		Crippen Method
logp	3.102		Crippen Method
mcvol	149.030	ml/mol	McGowan Method
pc	2374.90	kPa	Joback Method
rinpol	1264.00		NIST Webbook
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ripol	1642.00		NIST Webbook
ripol	1628.00		NIST Webbook
tb	481.02	K	Joback Method
tc	657.18	K	Joback Method
tf	239.38	K	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	326.08	J/molxK	481.02	Joback Method
cpg	339.86	J/molxK	510.38	Joback Method
cpg	353.02	J/molxK	539.74	Joback Method
cpg	365.57	J/molxK	569.10	Joback Method
cpg	377.54	J/molxK	598.46	Joback Method
cpg	388.96	J/molxK	627.82	Joback Method
cpg	399.85	J/molxK	657.18	Joback Method
dvisc	0.0048073	Paxs	239.38	Joback Method
dvisc	0.0020448	Paxs	279.65	Joback Method
dvisc	0.0010787	Paxs	319.93	Joback Method
dvisc	0.0006565	Paxs	360.20	Joback Method
dvisc	0.0004415	Paxs	400.47	Joback Method
dvisc	0.0003193	Paxs	440.75	Joback Method
dvisc	0.0002437	Paxs	481.02	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.51893e+01
Coeff. B	-4.44028e+03
Coeff. C	-8.07480e+01
Temperature range (K), min.	378.72
Temperature range (K), max.	530.27

Sources

McGowan Method:

<http://link.springer.com/article/10.1007/BF02311772>

NIST Webbook:

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C3913813&Units=SI>

The Yaws Handbook of Vapor

Pressure:

Crippen Method:

Crippen Method:

Joback Method:

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

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

https://www.chemeo.com/doc/models/crippen_log10ws

https://en.wikipedia.org/wiki/Joback_method

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
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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