

Nonane, 3-methylene-

Other names:	2-Ethyl-1-octene
Inchi:	InChI=1S/C10H20/c1-4-6-7-8-9-10(3)5-2/h3-9H2,1-2H3
InchiKey:	XZJZVNABSFJYOK-UHFFFAOYSA-N
Formula:	C10H20
SMILES:	C=C(CC)CCCCC
Mol. weight [g/mol]:	140.27
CAS:	51655-64-2

Physical Properties

Property code	Value	Unit	Source
gf	112.61	kJ/mol	Joback Method
hf	-134.09	kJ/mol	Joback Method
hfus	19.07	kJ/mol	Joback Method
hvap	37.26	kJ/mol	Joback Method
log10ws	-3.86		Crippen Method
logp	3.923		Crippen Method
mcvol	147.460	ml/mol	McGowan Method
pc	2202.08	kPa	Joback Method
rinpol	987.00		NIST Webbook
tb	424.76	K	Joback Method
tc	593.45	K	Joback Method
tf	186.74	K	Joback Method
vc	0.578	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	299.06	J/mol×K	424.76	Joback Method
cpg	313.92	J/mol×K	452.88	Joback Method
cpg	328.19	J/mol×K	480.99	Joback Method
cpg	341.88	J/mol×K	509.11	Joback Method
cpg	355.03	J/mol×K	537.22	Joback Method
cpg	367.63	J/mol×K	565.34	Joback Method
cpg	379.71	J/mol×K	593.45	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.57138e+01
Coeff. B	-4.16776e+03
Coeff. C	-6.43460e+01
Temperature range (K), min.	334.52
Temperature range (K), max.	465.00

Sources

Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci9903071
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=C51655642&Units=SI
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

Legend

cpg:	Ideal gas heat capacity
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
tb:	Normal Boiling Point Temperature

tc: Critical Temperature
tf: Normal melting (fusion) point
vc: Critical Volume

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