

# Naphthalene, 1-(1-decyl-1-undecenyl)-

<b>Other names:</b>	1-(1-Decylundec-1-enyl)naphthalene
<b>Inchi:</b>	InChI=1S/C31H48/c1-3-5-7-9-11-13-15-17-22-28(23-18-16-14-12-10-8-6-4-2)31-27-21-2
<b>InchiKey:</b>	PARGRVDINWXKDV-XAYXJRQQA-N
<b>Formula:</b>	C31H48
<b>SMILES:</b>	CCCCCCCCC=C(CCCCCCCCC)c1cccc2cccc12
<b>Mol. weight [g/mol]:</b>	420.71
<b>CAS:</b>	55319-81-8

## Physical Properties

Property code	Value	Unit	Source
gf	491.24	kJ/mol	Joback Method
hf	-159.61	kJ/mol	Joback Method
hfus	65.61	kJ/mol	Joback Method
hvap	89.22	kJ/mol	Joback Method
log10ws	-12.05		Crippen Method
logp	10.895		Crippen Method
mcvol	400.130	ml/mol	McGowan Method
pc	782.00	kPa	Joback Method
tb	963.36	K	Joback Method
tc	1179.52	K	Joback Method
tf	491.73	K	Joback Method
vc	1.567	m <sup>3</sup> /kmol	Joback Method

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1454.12	J/molxK	1143.49	Joback Method
cpg	1353.17	J/molxK	963.36	Joback Method
cpg	1375.08	J/molxK	999.39	Joback Method
cpg	1396.00	J/molxK	1035.41	Joback Method
cpg	1416.05	J/molxK	1071.44	Joback Method
cpg	1435.38	J/molxK	1107.47	Joback Method
cpg	1472.41	J/molxK	1179.52	Joback Method
hvapt	105.10	kJ/mol	533.00	NIST Webbook

# Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	2.00637e+01
Coeff. B	-1.26436e+04
Coeff. C	7.26270e+01
Temperature range (K), min.	566.71
Temperature range (K), max.	784.44

## Sources

<b>Crippen Method:</b>	<a href="https://www.chemeo.com/doc/models/crippen_log10ws">https://www.chemeo.com/doc/models/crippen_log10ws</a>
<b>Joback Method:</b>	<a href="https://en.wikipedia.org/wiki/Joback_method">https://en.wikipedia.org/wiki/Joback_method</a>
<b>McGowan Method:</b>	<a href="http://link.springer.com/article/10.1007/BF02311772">http://link.springer.com/article/10.1007/BF02311772</a>
<b>NIST Webbook:</b>	<a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=C55319818&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C55319818&amp;Units=SI</a>
<b>The Yaws Handbook of Vapor Pressure:</b>	<a href="https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure">https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure</a>
<b>Crippen Method:</b>	<a href="http://pubs.acs.org/doi/abs/10.1021/ci9903071">http://pubs.acs.org/doi/abs/10.1021/ci9903071</a>

## Legend

<b>cpg:</b>	Ideal gas heat capacity
<b>gf:</b>	Standard Gibbs free energy of formation
<b>hf:</b>	Enthalpy of formation at standard conditions
<b>hfus:</b>	Enthalpy of fusion at standard conditions
<b>hvap:</b>	Enthalpy of vaporization at standard conditions
<b>hvapt:</b>	Enthalpy of vaporization at a given temperature
<b>log10ws:</b>	Log10 of Water solubility in mol/l
<b>logp:</b>	Octanol/Water partition coefficient
<b>mccvol:</b>	McGowan's characteristic volume
<b>pc:</b>	Critical Pressure
<b>pvap:</b>	Vapor pressure
<b>tb:</b>	Normal Boiling Point Temperature

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

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