

1,1-Diphenyldodecane

Inchi:	InChI=1S/C24H34/c1-2-3-4-5-6-7-8-9-16-21-24(22-17-12-10-13-18-22)23-19-14-11-15-20
InchiKey:	MPUACKZXJBPMHK-UHFFFAOYSA-N
Formula:	C24H34
SMILES:	CCCCCCCCCCC(c1ccccc1)c1ccccc1
Mol. weight [g/mol]:	322.53
CAS:	1603-53-8

Physical Properties

Property code	Value	Unit	Source
gf	373.58	kJ/mol	Joback Method
hf	-70.91	kJ/mol	Joback Method
hfus	42.48	kJ/mol	Joback Method
hvap	73.18	kJ/mol	Joback Method
log10ws	-8.14		Crippen Method
logp	7.739		Crippen Method
mcvol	301.500	ml/mol	McGowan Method
pc	1229.42	kPa	Joback Method
sl	684.90	J/molxK	NIST Webbook
sl	684.90	J/molxK	NIST Webbook
tb	801.44	K	Joback Method
tc	1009.90	K	Joback Method
tf	398.08	K	Joback Method
tt	281.40 ± 0.02	K	NIST Webbook
tt	281.40 ± 0.20	K	NIST Webbook
vc	1.157	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	921.99	J/molxK	801.44	Joback Method
cpg	942.11	J/molxK	836.18	Joback Method
cpg	960.94	J/molxK	870.93	Joback Method
cpg	978.56	J/molxK	905.67	Joback Method
cpg	995.07	J/molxK	940.42	Joback Method

cpg	1010.54	J/mol×K	975.16	Joback Method
cpg	1025.04	J/mol×K	1009.90	Joback Method
cpl	593.70	J/mol×K	298.15	NIST Webbook
cpl	593.90	J/mol×K	298.15	NIST Webbook
dvisc	0.0016219	Paxs	398.08	Joback Method
dvisc	0.0006143	Paxs	465.31	Joback Method
dvisc	0.0002973	Paxs	532.53	Joback Method
dvisc	0.0001693	Paxs	599.76	Joback Method
dvisc	0.0001080	Paxs	666.99	Joback Method
dvisc	0.0000748	Paxs	734.21	Joback Method
dvisc	0.0000551	Paxs	801.44	Joback Method
hfust	38.83	kJ/mol	281.40	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.29594e+01
Coeff. B	-4.71172e+03
Coeff. C	-1.24394e+02
Temperature range (K), min.	496.22
Temperature range (K), max.	740.47

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=C1603538&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

cpl:	Liquid phase 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
hfust:	Enthalpy of fusion at a given temperature
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
sl:	Liquid phase molar entropy at standard conditions
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume

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