Dodecane, 1-cyclopentyl-4-(3-cyclopentylpropyl)-

Other names: 1,7-Dicyclopentyl-4-n-octylheptane
Cyclopentane, 1,1'-(4-octyl-1,7-heptanediyl)bis-
1-Cyclopentyl-4-(3-cyclopentylpropyl)dodecane

Inchi: InChI=1S/C25H48/c1-2-3-4-5-6-7-14-25(21-12-19-23-15-8-9-16-23)22-13-20-24-17-10-11

InchiKey: ZMXUNXRABSSJDU-UHFFFAOYSA-N

Formula: C25H48

SMILES: CCCCCCCCC(CCCC1CCCC1)CCCC1CCCC1

Mol. weight [g/mol]: 348.65

CAS: 7225-68-5

Physical Properties

Property code	Value	Unit	Source
gf	230.28	kJ/mol	Joback Method
hf	-443.65	kJ/mol	Joback Method
hfus	44.85	kJ/mol	Joback Method
hvap	71.37	kJ/mol	Joback Method
log10ws	-9.35		Crippen Method
logp	9.074		Crippen Method
mcvol	341.390	ml/mol	McGowan Method
pc	946.75	kPa	Joback Method
tb	801.52	K	Joback Method
tc	993.92	K	Joback Method
tf	233.00 ± 8.00	K	NIST Webbook
tf	233.15 ± 2.00	K	NIST Webbook
tf	233.00 ± 3.00	K	NIST Webbook
vc	1.312	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1272.85	J/mol×K	993.92	Joback Method
cpg	1143.71	J/mol×K	801.52	Joback Method
cpg	1168.50	J/mol×K	833.59	Joback Method
cpg	1191.88	J/mol×K	865.65	Joback Method

cpg	1213.94	J/mol×K	897.72	Joback Method
cpg	1234.74	J/mol×K	929.79	Joback Method
cpg	1254.35	J/mol×K	961.85	Joback Method
dvisc	0.0001011	Pa×s	801.52	Joback Method
dvisc	0.0034239	Pa×s	378.31	Joback Method
dvisc	0.0012000	Pa×s	448.85	Joback Method
dvisc	0.0005591	Pa×s	519.38	Joback Method
dvisc	0.0003127	Pa×s	589.91	Joback Method
dvisc	0.0001980	Pa×s	660.45	Joback Method
dvisc	0.0001369	Pa×s	730.98	Joback Method
hvapt	88.50	kJ/mol	499.00	NIST Webbook

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C7225685&Units=SI
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

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
hvapt: Enthalpy of vaporization at a given temperature
log10ws: Log10 of Water solubility in mol/l
logp: Octanol/Water partition coefficient
mcvol: McGowan's characteristic volume
pc: Critical Pressure
tb: Normal Boiling Point Temperature
tc: Critical Temperature
tf: Normal melting (fusion) point
vc: Critical Volume