2-Butenedioic acid (E)-, bis[5-methyl-2-(1-methylethyl)cyclohexyl] ester, [1R-[1«alpha»(1R*,2S*,5R*),2«beta»,5«alpha»]]-

Othernames: Menthol, fumarate (2:1), (1R,3R,4S)-

Inchi: InChI=1S/C24H40O4/c1-15(2)19-9-7-17(5)13-21(19)27-23(25)11-12-24(26)28-22-14-18(

InchiKey: [illegible]

Formula: C24H40O4

SMILES: CC1CCC(C(C)C)C(OC(=O)C=CC(=O)OC2CC(C)CCC2C(C)C)C1

Mol. weight [g/mol]: 392.57

CAS: 34675-24-6

Physical Properties

Property code	Value	Unit	Source
gf	-223.24	kJ/mol	Joback Method
hf	-894.35	kJ/mol	Joback Method
hfus	44.60	kJ/mol	Joback Method
hvap	86.13	kJ/mol	Joback Method
log10ws	-6.01		Crippen Method
logp	5.551		Crippen Method
mcvol	337.880	ml/mol	McGowan Method
pc	1051.41	kPa	Joback Method
tb	924.80	K	Joback Method
tc	1145.27	K	Joback Method
tf	467.28	K	Joback Method
vc	1.258	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1200.62	J/mol×K	924.80	Joback Method
cpg	1220.86	J/mol×K	961.55	Joback Method
cpg	1239.03	J/mol×K	998.29	Joback Method
cpg	1255.17	J/mol×K	1035.04	Joback Method
cpg	1269.29	J/mol×K	1071.78	Joback Method
cpg	1281.44	J/mol×K	1108.53	Joback Method
cpg	1291.63	J/mol×K	1145.27	Joback Method
dvisc	0.0011051	Pa×s	467.28	Joback Method

dvisc	0.0005038	Pa×s	543.53	Joback Method
dvisc	0.0002786	Pa×s	619.79	Joback Method
dvisc	0.0001755	Pa×s	696.04	Joback Method
dvisc	0.0001211	Pa×s	772.29	Joback Method
dvisc	0.0000893	Pa×s	848.55	Joback Method
dvisc	0.0000692	Pa×s	924.80	Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	484.20	K	0.70	NIST Webbook

Sources

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
McGowan Method: http://link.springer.com/article/10.1007/BF02311772
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C34675246&Units=SI

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
tb: Normal Boiling Point Temperature
tbrp: Boiling point at reduced pressure
tc: Critical Temperature

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

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