2,4-Imidazolidinedione, 5-methyl-5-(2-methylpropyl)-

Other names: Hydantoin, 5-isobutyl-5-methyl-
Methylisobutylhydantoin
5-Isobutyl-5-methylhydantoin
5,5-Methyl isobutyl hydantoin
5-Methyl-5-isobutylhydantoin

Inchi: InChI=1S/C8H14N2O2/c1-5(2)4-8(3)6(11)9-7(12)10-8/h5H,4H2,1-3H3,(H2,9,10,11,12)

InchiKey: PGCSVDXEADVLRG-UHFFFAOYSA-N

Formula: C8H14N2O2

SMILES: CC(C)CC1(C)NC(=O)NC1=O

Mol. weight [g/mol]: 170.21

CAS: 27886-67-5

Physical Properties

Property code	Value	Unit	Source
gf	-24.66	kJ/mol	Joback Method
hf	-337.79	kJ/mol	Joback Method
hfus	18.79	kJ/mol	Joback Method
hvap	54.13	kJ/mol	Joback Method
log10ws	-1.84		Crippen Method
logp	0.631		Crippen Method
mcvol	135.820	ml/mol	McGowan Method
pc	3749.97	kPa	Joback Method
tb	630.26	K	Joback Method
tc	880.56	K	Joback Method
tf	546.22	K	Joback Method
vc	0.504	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	360.73	J/mol×K	630.26	Joback Method
cpg	376.93	J/mol×K	671.98	Joback Method
cpg	392.41	J/mol×K	713.69	Joback Method
cpg	407.24	J/mol×K	755.41	Joback Method

cpg	421.47	J/mol×K	797.13	Joback Method
cpg	435.15	J/mol×K	838.85	Joback Method
cpg	448.34	J/mol×K	880.56	Joback Method

Sources

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=C27886675&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws

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