2,4-Imidazolidinedione, 5-methyl-5-phenyl-

Other names:	5-methyl-5-phenyl-2,4-imidazolidinedione
	5-methyl-5-phenylhydantoin
	5-methyl-5-phenylimidazolidine-2,4-dione
	Hydantoin, 5-methyl-5-phenyl-
Inchi:	InChI=1S/C10H10N2O2/c1-10(7-5-3-2-4-6-7)8(13)11-9(14)12-10/h2-6H,1H3,(H2,11,12,1
InchiKey:	JNGWGQUYLVSFND-UHFFFAOYSA-N
Formula:	C10H10N2O2
SMILES:	CC1(c2ccccc2)NC(=O)NC1=O
Mol. weight [g/mol]:	190.20
CAS:	6843-49-8

Physical Properties

Property code	Value	Unit	Source
gf	107.03	kJ/mol	Joback Method
hf	-137.26	kJ/mol	Joback Method
hfus	21.53	kJ/mol	Joback Method
hvap	61.25	kJ/mol	Joback Method
log10ws	-2.08		Crippen Method
logp	0.741		Crippen Method
mcvol	140.240	ml/mol	McGowan Method
pc	4432.62	kPa	Joback Method
rinpol	1866.00		NIST Webbook
rinpol	1866.00		NIST Webbook
rinpol	1866.00		NIST Webbook
tb	703.14	K	Joback Method
tc	989.69	K	Joback Method
tf	610.18	K	Joback Method
vc	0.514	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	378.14	J/mol×K	703.14	Joback Method
cpg	394.54	J/mol×K	750.90	Joback Method

cpg	410.03	J/mol×K	798.66	Joback Method
cpg	424.74	J/mol×K	846.41	Joback Method
cpg	438.77	J/mol×K	894.17	Joback Method
cpg	452.24	J/mol×K	941.93	Joback Method
cpg	465.27	J/mol×K	989.69	Joback Method
hvapt	125.70	kJ/mol	440.00	Evaluation of sublimation enthalpy by thermogravimetry: Analysis of the diffusion effects in the case of methyl and phenyl substituted hydantoins

Sources

Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Evaluation of sublimation enthalpy by thermogravimetry: Analysis of the diffusion effects in the case of methyl and phenyl substituted hydantoins:	https://www.doi.org/10.1016/j.tca.2017.06.024
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=C6843498&Units=SI

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
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
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point

vc: Critical Volume