

10-Phenyldecanoic acid

Other names:	Benzenedecanoic acid
Inchi:	InChI=1S/C16H24O2/c17-16(18)14-10-5-3-1-2-4-7-11-15-12-8-6-9-13-15/h6,8-9,12-13H,
InchiKey:	IISIJPTBDSIFM-UHFFFAOYSA-N
Formula:	C16H24O2
SMILES:	O=C(O)CCCCCCCCc1ccccc1
Mol. weight [g/mol]:	248.36
CAS:	18017-73-7

Physical Properties

Property code	Value	Unit	Source
gf	-69.49	kJ/mol	Joback Method
hf	-401.85	kJ/mol	Joback Method
hfus	36.92	kJ/mol	Joback Method
hvap	76.91	kJ/mol	Joback Method
log10ws	-4.72		Crippen Method
logp	4.435		Crippen Method
mcvol	219.980	ml/mol	McGowan Method
pc	1944.08	kPa	Joback Method
tb	738.21	K	Joback Method
tc	927.65	K	Joback Method
tf	407.25	K	Joback Method
vc	0.849	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	636.08	J/molxK	738.21	Joback Method
cpg	700.81	J/molxK	896.08	Joback Method
cpg	689.36	J/molxK	864.51	Joback Method
cpg	677.21	J/molxK	832.93	Joback Method
cpg	664.30	J/molxK	801.36	Joback Method
cpg	650.60	J/molxK	769.78	Joback Method
cpg	711.59	J/molxK	927.65	Joback Method
dvisc	0.0000332	Paxs	738.21	Joback Method

dvisc	0.0000504	Paxs	683.05	Joback Method
dvisc	0.0000823	Paxs	627.89	Joback Method
dvisc	0.0001478	Paxs	572.73	Joback Method
dvisc	0.0003006	Paxs	517.57	Joback Method
dvisc	0.0007243	Paxs	462.41	Joback Method
dvisc	0.0022151	Paxs	407.25	Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	502.20	K	2.40	NIST Webbook

Sources

NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C18017737&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
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772

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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