Benzene, (1,2,2-trimethylpropyl)-

Other names:	(1,2,2-trimethylpropyl)benzene
	2,2-dimethyl-3-phenylbutane
	2-Phenyl-3,3-dimethylbutane
Inchi:	InChI=1S/C12H18/c1-10(12(2,3)4)11-8-6-5-7-9-11/h5-10H,1-4H3
InchiKey:	UYOAOYYUSXVILM-UHFFFAOYSA-N
Formula:	C12H18
SMILES:	CC(c1ccccc1)C(C)(C)C
Mol. weight [g/mol]:	162.27
CAS:	19262-20-5

Physical Properties

Property code	Value	Unit	Source
gf	162.97	kJ/mol	Joback Method
hf	-68.51	kJ/mol	Joback Method
hfus	9.94	kJ/mol	Joback Method
hvap	42.90	kJ/mol	Joback Method
log10ws	-3.67		Crippen Method
logp	3.836		Crippen Method
mcvol	156.180	ml/mol	McGowan Method
pc	2470.27	kPa	Joback Method
ripol	1259.40		NIST Webbook
tb	496.97	K	Joback Method
tc	714.13	K	Joback Method
tf	238.84	K	Joback Method
vc	0.583	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	443.79	J/mol×K	714.13	Joback Method
cpg	367.16	J/mol×K	533.16	Joback Method
cpg	384.69	J/mol×K	569.36	Joback Method
cpg	401.05	J/mol×K	605.55	Joback Method
cpg	416.31	J/mol×K	641.74	Joback Method

cpg	430.53	J/mol×K	677.94	Joback Method
cpg	348.40	J/mol×K	496.97	Joback Method
dvisc	0.0085943	Pa×s	238.84	Joback Method
dvisc	0.0028049	Pa×s	281.86	Joback Method
dvisc	0.0012314	Pa×s	324.88	Joback Method
dvisc	0.0006554	Pa×s	367.90	Joback Method
dvisc	0.0003981	Pa×s	410.93	Joback Method
dvisc	0.0002658	Pa×s	453.95	Joback Method
dvisc	0.0001903	Pa×s	496.97	Joback Method
pvap	0.04	kPa	296.00	Study and prediction of alkylbenzenes vapour pressures
pvap	0.05	kPa	298.50	Study and prediction of alkylbenzenes vapour pressures
pvap	0.06	kPa	301.00	Study and prediction of alkylbenzenes vapour pressures
pvap	0.07	kPa	303.50	Study and prediction of alkylbenzenes vapour pressures
pvap	0.08	kPa	305.90	Study and prediction of alkylbenzenes vapour pressures
pvap	0.10	kPa	308.40	Study and prediction of alkylbenzenes vapour pressures
pvap	0.12	kPa	310.90	Study and prediction of alkylbenzenes vapour pressures
pvap	0.14	kPa	313.40	Study and prediction of alkylbenzenes vapour pressures
pvap	0.16	kPa	315.90	Study and prediction of alkylbenzenes vapour pressures
pvap	0.18	kPa	318.30	Study and prediction of alkylbenzenes vapour pressures
pvap	0.22	kPa	320.80	Study and prediction of alkylbenzenes vapour pressures

pvap	0.26	kPa	323.30	Study and prediction of alkylbenzenes vapour pressures
pvap	0.29	kPa	325.80	Study and prediction of alkylbenzenes vapour pressures

Sources

Study and prediction of alkylbenzenes vapour pressures:	https://www.doi.org/10.1016/j.fluid.2008.04.016
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=C19262205&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
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
pvap:	Vapor pressure
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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