1-Pentanol, 2,2,3,3,4,4,5,5-octafluoro-

Other names:	1,1,5-Trihydrooctafluoro-1-pentanol
	1,1,5-Trihydrooctafluoropentan-1-ol
	1,1,5-Trihydrooctafluoropentyl alcohol
	1,1,5H-perfluoropentanol
	1H,1H,5H-Octafluoro-1-pentanol
	2,2,3,3,4,4,5,5-Octafluoropentanol
	2,2,3,3,4,4,5,5-Octafluoropentyl alcohol
	2,2,3,3,4,4,5,5-octafluoro-1-pentanol
	2,2,3,3,4,4,5,5-octafluoropentan-1-ol
	NSC 114
	«alpha»,«alpha»,«omega»-Trihydroperfluoropentanol
Inchi:	InChI=1S/C5H4F8O/c6-2(7)4(10,11)5(12,13)3(8,9)1-14/h2,14H,1H2
InchiKey:	JUGSKHLZINSXPQ-UHFFFAOYSA-N
Formula:	C5H4F8O
SMILES:	OCC(F)(F)C(F)(F)C(F)(F)C(F)F
Mol. weight [g/mol]:	232.07
CAS:	355-80-6

Physical Properties

Property code	Value	Unit	Source
gf	-1698.00	kJ/mol	Joback Method
hf	-1899.17	kJ/mol	Joback Method
hfus	11.67	kJ/mol	Joback Method
hvap	32.59	kJ/mol	Joback Method
log10ws	-2.43		Crippen Method
logp	2.150		Crippen Method
mcvol	101.340	ml/mol	McGowan Method
pc	2767.17	kPa	Joback Method
rinpol	748.00		NIST Webbook
rinpol	743.00		NIST Webbook
rinpol	759.00		NIST Webbook
tb	413.70	K	NIST Webbook
tb	413.50 ± 0.50	K	NIST Webbook
tc	522.10	K	Joback Method
tf	203.91	K	Joback Method
vc	0.440	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	241.22	J/mol×K	390.01	Joback Method
cpg	250.01	J/mol×K	412.02	Joback Method
cpg	258.29	J/mol×K	434.04	Joback Method
cpg	266.06	J/mol×K	456.05	Joback Method
cpg	273.36	J/mol×K	478.07	Joback Method
cpg	280.20	J/mol×K	500.08	Joback Method
cpg	286.60	J/mol×K	522.10	Joback Method
pvap	53.30	kPa	394.71	Isobaric Vapor Liquid Equilibrium for Binary Systems of 2,2,3,3-Tetrafluoro-1-propanol + 2,2,3,3,4,4,5,5-Octafluoro-1-pentanol at 53.3, 66.7, 80.0 kPa
pvap	66.70	kPa	400.93	Isobaric Vapor Liquid Equilibrium for Binary Systems of 2,2,3,3-Tetrafluoro-1-propanol + 2,2,3,3,4,4,5,5-Octafluoro-1-pentanol at 53.3, 66.7, 80.0 kPa
pvap	80.00	kPa	406.16	Isobaric Vapor Liquid Equilibrium for Binary Systems of 2,2,3,3-Tetrafluoro-1-propanol + 2,2,3,3,4,4,5,5-Octafluoro-1-pentanol at 53.3, 66.7, 80.0 kPa
rfi	1.31710		293.15	Liquid-Liquid Equilibrium for the Ternary System 2,2,3,3,4,4,5,5-Octafluoro-1-Pentanol + Ethanol + Water at (298.15, 308.15, and 318.15) K

rhol	1667.00	kg/m3	301.55	Measurements and correlations of density, viscosity, and vapour-liquid equilibrium for fluoro alcohols
rhol	1674.20	kg/m3	293.15	Measurements and correlations of density, viscosity, and vapour-liquid equilibrium for fluoro alcohols
rhol	1659.00	kg/m3	306.15	Measurements and correlations of density, viscosity, and vapour-liquid equilibrium for fluoro alcohols
rhol	1655.20	kg/m3	309.05	Measurements and correlations of density, viscosity, and vapour-liquid equilibrium for fluoro alcohols
rhol	1649.20	kg/m3	312.65	Measurements and correlations of density, viscosity, and vapour-liquid equilibrium for fluoro alcohols
rhol	1643.00	kg/m3	316.15	Measurements and correlations of density, viscosity, and vapour-liquid equilibrium for fluoro alcohols
rhol	1636.40	kg/m3	319.35	Measurements and correlations of density, viscosity, and vapour-liquid equilibrium for fluoro alcohols
rhol	1630.40	kg/m3	323.25	Measurements and correlations of density, viscosity, and vapour-liquid equilibrium for fluoro alcohols
rhol	1623.20	kg/m3	327.05	Measurements and correlations of density, viscosity, and vapour-liquid equilibrium for fluoro alcohols

rhol	1617.80	kg/m3	330.65	Measurements and correlations of density, viscosity, and vapour-liquid equilibrium for fluoro alcohols
rhol	1609.60	kg/m3	334.35	Measurements and correlations of density, viscosity, and vapour-liquid equilibrium for fluoro alcohols
rhol	1603.80	kg/m3	338.25	Measurements and correlations of density, viscosity, and vapour-liquid equilibrium for fluoro alcohols
rhol	1596.00	kg/m3	342.25	Measurements and correlations of density, viscosity, and vapour-liquid equilibrium for fluoro alcohols

Sources

Joback Method:	https://en.wikipedia.org/wiki/Joback_method
Liquid-Liquid Equilibrium for the Ternary System 2,2,3,3,4,4,5,5-Octafluoro-1-Pentanol + Ethanol + Water at (298.15, 308.15, and 318.15) K:	https://www.doi.org/10.1021/acs.jced.5b00436
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C355806&Units=SI
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Measurement and correlation of liquid-liquid equilibrium for the ternary system 2,2,3,3,4,4,5,5-octafluoro-1-pentanol + methanol + water at (298.15, 308.15, and 318.15) K:	https://www.doi.org/10.1016/j.fluid.2015.10.039
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
Isobaric Vapor-Liquid Equilibrium for Binary Systems of 2,2,3,3-Tetrafluoro-1-propanol + 2,2,3,3,4,4,5,5-Octafluoro-1-pentanol at 53.3, 66.7, 80.0 kPa:	https://www.doi.org/10.1021/acs.jced.6b00429
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Measurements and correlations of density, viscosity, and vapour-liquid equilibrium for fluoro alcohols:	https://www.doi.org/10.1016/j.jct.2016.07.011

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
pvap:	Vapor pressure
rfi:	Refractive Index
rhol:	Liquid Density
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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