

Tetrapropylene glycol

Other names:	2,5,8-trimethyl-3,6,9-trioxadidecane-1,11-diol 2-[2-[2-(2-hydroxypropoxy)propoxy]propoxy]-1-propanol
Inchi:	InChI=1S/C12H26O5/c13-5-1-7-15-9-3-11-17-12-4-10-16-8-2-6-14/h13-14H,1-12H2
InchiKey:	SSQYDJBBYFFAOG-UHFFFAOYSA-N
Formula:	C12H26O5
SMILES:	OCCCOCCCOCCCOCCCO
Mol. weight [g/mol]:	250.33
CAS:	30242-05-8

Physical Properties

Property code	Value	Unit	Source
gf	-538.48	kJ/mol	Joback Method
hf	-992.13	kJ/mol	Joback Method
hfus	38.58	kJ/mol	Joback Method
hvap	82.89	kJ/mol	Joback Method
log10ws	-0.63		Crippen Method
logp	0.581		Crippen Method
mcvol	209.290	ml/mol	McGowan Method
pc	1998.33	kPa	Joback Method
tb	725.58	K	Joback Method
tc	891.87	K	Joback Method
tf	413.33	K	Joback Method
vc	0.799	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	627.86	J/mol×K	725.58	Joback Method
cpg	640.97	J/mol×K	753.30	Joback Method
cpg	653.48	J/mol×K	781.01	Joback Method
cpg	665.40	J/mol×K	808.73	Joback Method
cpg	676.72	J/mol×K	836.44	Joback Method
cpg	687.44	J/mol×K	864.16	Joback Method
cpg	697.56	J/mol×K	891.87	Joback Method

dvisc	0.0012971	Pa×s	413.33	Joback Method	
dvisc	0.0003138	Pa×s	465.37	Joback Method	
dvisc	0.0001010	Pa×s	517.41	Joback Method	
dvisc	0.0000400	Pa×s	569.45	Joback Method	
dvisc	0.0000185	Pa×s	621.50	Joback Method	
dvisc	0.0000096	Pa×s	673.54	Joback Method	
dvisc	0.0000055	Pa×s	725.58	Joback Method	
pvap	10.72	kPa	500.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol	
pvap	2.68	kPa	462.55	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol	
pvap	5.34	kPa	480.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol	
pvap	6.66	kPa	486.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol	
pvap	8.02	kPa	492.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol	
pvap	0.01	kPa	409.85	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol	
pvap	13.36	kPa	507.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol	
pvap	16.05	kPa	513.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol	

pvap	18.79	kPa	518.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol	
pvap	21.34	kPa	522.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol	
pvap	24.02	kPa	527.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol	
pvap	26.71	kPa	530.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol	
pvap	32.05	kPa	537.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol	
pvap	37.42	kPa	543.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol	
pvap	40.02	kPa	545.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol	
pvap	45.37	kPa	550.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol	
pvap	50.69	kPa	554.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol	
pvap	53.36	kPa	556.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol	

pvap	58.74	kPa	560.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol
pvap	64.02	kPa	564.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol
pvap	69.28	kPa	567.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol
pvap	74.63	kPa	570.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol
pvap	83.34	kPa	575.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol
pvap	101.02	kPa	582.15	Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol

Sources

NIST Webbook:

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C30242058&Units=SI>

Crippen Method:

<http://pubs.acs.org/doi/abs/10.1021/ci990307l>

Crippen Method:

https://www.chemeo.com/doc/models/crippen_log10ws

Vapor Pressure, Density, Viscosity and Surface Tension of Tetrapropylene Glycol

<https://www.doi.org/10.1021/je4004977>

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

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