

Tri(propylene glycol) propyl ether

Other names:	1-(1-(1-Propoxypropan-2-yloxy)propan-2-yloxy)propan-2-ol 1-[1-methyl-2-(1-methyl-2-propoxyethoxy)ethoxy]-2-propanol Tripropylene glycol monopropyl ether tripropylene glycol n-propyl ether
Inchi:	InChI=1S/C12H26O4/c1-5-6-14-8-11(3)16-9-12(4)15-7-10(2)13/h10-13H,5-9H2,1-4H3
InchiKey:	JKEHLQXXZMANPK-UHFFFAOYSA-N
Formula:	C12H26O4
SMILES:	CCCOCCC(C)OCC(C)OCC(C)O
Mol. weight [g/mol]:	234.33
CAS:	96077-04-2

Physical Properties

Property code	Value	Unit	Source
gf	-408.98	kJ/mol	Joback Method
hf	-855.74	kJ/mol	Joback Method
hfus	23.92	kJ/mol	Joback Method
hvap	65.05	kJ/mol	Joback Method
log10ws	-1.71		Crippen Method
logp	1.604		Crippen Method
mcvol	203.420	ml/mol	McGowan Method
pc	1882.17	kPa	Joback Method
rinpol	1299.00		NIST Webbook
rinpol	1283.00		NIST Webbook
tb	632.08	K	Joback Method
tc	798.21	K	Joback Method
tf	307.51	K	Joback Method
vc	0.762	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	564.16	J/mol×K	632.08	Joback Method
cpg	579.14	J/mol×K	659.77	Joback Method
cpg	593.54	J/mol×K	687.46	Joback Method

cpg	607.34	J/mol×K	715.14	Joback Method
cpg	620.55	J/mol×K	742.83	Joback Method
cpg	633.16	J/mol×K	770.52	Joback Method
cpg	645.17	J/mol×K	798.21	Joback Method
cpl	478.30	J/mol×K	275.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	479.40	J/mol×K	276.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	480.40	J/mol×K	278.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	481.50	J/mol×K	279.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	482.50	J/mol×K	281.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	483.60	J/mol×K	282.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	484.60	J/mol×K	284.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	485.70	J/mol×K	285.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.

cpl	486.70	J/mol×K	287.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	487.80	J/mol×K	288.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	488.80	J/mol×K	290.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	489.90	J/mol×K	291.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	490.90	J/mol×K	293.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	492.00	J/mol×K	294.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	493.00	J/mol×K	296.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	494.10	J/mol×K	297.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	494.50	J/mol×K	298.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.

cpl	495.20	J/mol×K	299.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	496.20	J/mol×K	300.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	497.30	J/mol×K	302.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	498.40	J/mol×K	303.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	499.40	J/mol×K	305.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	522.00	J/mol×K	336.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	501.50	J/mol×K	308.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	502.60	J/mol×K	309.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.

cpl	503.70	J/mol×K	311.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	504.80	J/mol×K	312.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	505.80	J/mol×K	314.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	506.90	J/mol×K	315.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	508.00	J/mol×K	317.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	509.00	J/mol×K	318.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	510.10	J/mol×K	320.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	511.20	J/mol×K	321.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	512.30	J/mol×K	323.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.

cpl	513.30	J/mol×K	324.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	514.40	J/mol×K	326.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	515.50	J/mol×K	327.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	523.80	J/mol×K	339.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	517.60	J/mol×K	330.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	518.70	J/mol×K	332.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	519.80	J/mol×K	333.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	520.90	J/mol×K	335.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.

cpl	500.50	J/mol×K	306.65	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	523.10	J/mol×K	338.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	516.60	J/mol×K	329.15	Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
dvisc	0.0118637	Paxs	307.51	Joback Method
dvisc	0.0020195	Paxs	361.60	Joback Method
dvisc	0.0005450	Paxs	415.70	Joback Method
dvisc	0.0001989	Paxs	469.79	Joback Method
dvisc	0.0000894	Paxs	523.89	Joback Method
dvisc	0.0000466	Paxs	577.98	Joback Method
dvisc	0.0000272	Paxs	632.08	Joback Method

Sources

Mutual Solubility and Lower Critical Solution Temperature for Water + ~~Joback Method~~ + Ether Systems:

<https://www.doi.org/10.1021/je049635u>

https://en.wikipedia.org/wiki/Joback_method

<http://link.springer.com/article/10.1007/BF02311772>

McGowan Method:

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C96077042&Units=SI>

NIST Webbook:

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

Crippen Method:

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

Heat capacity of downanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.:

<https://www.doi.org/10.1016/j.fluid.2016.09.002>

Legend

cpg: Ideal gas heat capacity

cpl: Liquid phase 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
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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