Octanoic acid, methyl ester

Other names:	Caprylic acid methyl ester
	Methyl caprylate
	Methyl ester octanoic acid
	Methyl ester of octanoic acid
	Methyl n-octanoate
	Methyl octanoate
	Uniphat A20
	n-Caprylic acid methyl ester
Inchi:	InChI=1S/C9H18O2/c1-3-4-5-6-7-8-9(10)11-2/h3-8H2,1-2H3
InchiKey:	JGHZJRVDZXSNKQ-UHFFFAOYSA-N
Formula:	C9H18O2
SMILES:	CCCCCCCC(=O)OC
Mol. weight [g/mol]:	158.24
CAS:	111-11-5

Physical Properties

Property code	Value	Unit	Source
chl	-5493.60 ± 0.40	kJ/mol	NIST Webbook
chl	-5523.50 ± 0.80	kJ/mol	NIST Webbook
gf	-209.02	kJ/mol	Joback Method
hf	-473.89	kJ/mol	Joback Method
hfus	25.64	kJ/mol	Heat Capacity Measurements of 13 Methyl Esters of n-Carboxylic Acids from Methyloctanoate to Methyleicosanoate between 5 K and 350 K
hvap	56.40 ± 0.50	kJ/mol	NIST Webbook
hvap	57.90 ± 0.40	kJ/mol	NIST Webbook
hvap	54.70 ± 0.60	kJ/mol	NIST Webbook
hvap	57.30 ± 0.40	kJ/mol	NIST Webbook
hvap	56.41 ± 0.50	kJ/mol	NIST Webbook
hvap	56.90 ± 0.10	kJ/mol	NIST Webbook
log10ws	-3.17		Estimated Solubility Method
log10ws	-3.39		Aqueous Solubility Prediction Method
logp	2.520		Crippen Method

mcvol	145.110	ml/mol	McGowan Method
pc	2412.37	kPa	Joback Method
rinpol	1112.00		NIST Webbook
rinpol	1105.00		NIST Webbook
rinpol	1110.00		NIST Webbook
rinpol	1108.00		NIST Webbook
rinpol	1107.00		NIST Webbook
rinpol	1109.00		NIST Webbook
rinpol	1108.00		NIST Webbook
rinpol	1107.00		NIST Webbook
rinpol	1108.00		NIST Webbook
rinpol	1111.00		NIST Webbook
rinpol	1126.00		NIST Webbook
rinpol	1107.00		NIST Webbook
rinpol	1120.00		NIST Webbook
rinpol	1112.00		NIST Webbook
rinpol	1129.00		NIST Webbook
rinpol	1119.00		NIST Webbook
rinpol	1119.00		NIST Webbook
rinpol	1130.00		NIST Webbook
rinpol	1125.00		NIST Webbook
rinpol	1122.00		NIST Webbook
rinpol	1126.00		NIST Webbook
rinpol	1126.00		NIST Webbook
rinpol	1126.00		NIST Webbook
rinpol	1108.00		NIST Webbook
rinpol	1124.00		NIST Webbook
rinpol	1132.00		NIST Webbook
rinpol	1126.00		NIST Webbook
rinpol	1109.00		NIST Webbook
rinpol	1109.00		NIST Webbook
rinpol	1138.00		NIST Webbook
rinpol	1138.00		NIST Webbook
rinpol	1122.00		NIST Webbook
rinpol	1113.00		NIST Webbook
rinpol	1138.00		NIST Webbook
rinpol	1138.00		NIST Webbook
rinpol	1138.00		NIST Webbook
rinpol	1109.80		NIST Webbook
rinpol	1109.70		NIST Webbook
rinpol	1106.00		NIST Webbook
rinpol	1107.00		NIST Webbook
rinpol	1116.00		NIST Webbook
rinpol	1107.00		NIST Webbook

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rinpol	1125.00	NIST Webbook
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rinpol	1128.60	NIST Webbook
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rinpol	1126.00	NIST Webbook
rinpol	1126.00	NIST Webbook
rinpol	1125.00	NIST Webbook
rinpol	1127.00	NIST Webbook
rinpol	1125.00	NIST Webbook
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rinpol	1112.00	NIST Webbook
rinpol	1112.00	NIST Webbook
rinpol	1107.00	NIST Webbook
rinpol	1107.00	NIST Webbook
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rinpol	186.78	NIST Webbook
rinpol	188.24	NIST Webbook
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rinpol	187.83	NIST Webbook
rinpol	1126.00	NIST Webbook
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ripol	1393.00	NIST Webbook
ripol	1402.00	NIST Webbook
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ripol	1374.00	NIST Webbook
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ripol	1379.00	NIST Webbook
ripol	1381.00	NIST Webbook
ripol	1381.00	NIST Webbook
ripol	1394.00	NIST Webbook
ripol	1400.00	NIST Webbook
ripol	1386.00	NIST Webbook
ripol	1378.00	NIST Webbook
ripol	1380.00	NIST Webbook
ripol	1379.00	NIST Webbook
ripol	1387.00	NIST Webbook
ripol	1390.00	NIST Webbook
ripol	1381.00	NIST Webbook
ripol	1372.00	NIST Webbook
ripol	1378.00	NIST Webbook
ripol	1398.00	NIST Webbook
ripol	1412.00	NIST Webbook
ripol	1390.00	NIST Webbook
ripol	1374.00	NIST Webbook
ripol	1385.00	NIST Webbook
ripol	1404.00	NIST Webbook
ripol	1377.00	NIST Webbook
ripol	1378.00	NIST Webbook
ripol	1400.00	NIST Webbook
ripol	1379.00	NIST Webbook
ripol	1383.00	NIST Webbook
ripol	1387.00	NIST Webbook
ripol	1387.00	NIST Webbook

ripol	1385.00		NIST Webbook
ripol	1378.00		NIST Webbook
ripol	1381.00		NIST Webbook
ripol	1373.00		NIST Webbook
ripol	1417.00		NIST Webbook
ripol	1383.00		NIST Webbook
ripol	1384.00		NIST Webbook
ripol	1385.00		NIST Webbook
ripol	1399.00		NIST Webbook
ripol	1378.00		NIST Webbook
ripol	1399.00		NIST Webbook
ripol	1373.00		NIST Webbook
ripol	1407.00		NIST Webbook
ripol	1400.00		NIST Webbook
ripol	1380.00		NIST Webbook
tb	466.10	K	NIST Webbook
tb	467.70	K	NIST Webbook
tb	466.10 ± 2.00	K	NIST Webbook
tb	466.05 ± 0.35	K	NIST Webbook
tb	467.00	K	NIST Webbook
tc	655.29	K	Joback Method
tf	236.50 ± 0.05	K	NIST Webbook
vc	0.564	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	395.29	J/mol×K	655.29	Joback Method
cpg	336.15	J/mol×K	510.56	Joback Method
cpg	348.92	J/mol×K	539.50	Joback Method
cpg	361.21	J/mol×K	568.45	Joback Method
cpg	373.04	J/mol×K	597.40	Joback Method
cpg	322.89	J/mol×K	481.61	Joback Method
cpg	384.40	J/mol×K	626.35	Joback Method
cpl	316.60	J/mol×K	303.15	Heat capacities and thermal diffusivities of some n-alkanoic acid methyl esters

cpl	342.80	J/mol×K	363.15	Heat capacities and thermal diffusivities of some n-alkanoic acid methyl esters
cpl	320.50	J/mol×K	313.15	Heat capacities and thermal diffusivities of some n-alkanoic acid methyl esters
cpl	324.40	J/mol×K	323.15	Heat capacities and thermal diffusivities of some n-alkanoic acid methyl esters
cpl	328.70	J/mol×K	333.15	Heat capacities and thermal diffusivities of some n-alkanoic acid methyl esters
cpl	333.20	J/mol×K	343.15	Heat capacities and thermal diffusivities of some n-alkanoic acid methyl esters
cpl	337.80	J/mol×K	353.15	Heat capacities and thermal diffusivities of some n-alkanoic acid methyl esters
cpl	347.00	J/mol×K	373.15	Heat capacities and thermal diffusivities of some n-alkanoic acid methyl esters
cpl	314.23	J/mol×K	298.15	NIST Webbook
dvisc	0.0008518	Pa×s	328.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0015593	Pa×s	288.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0017103	Pa×s	283.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0014275	Pa×s	293.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters

dvisc	0.0012120	Pa×s	303.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0007101	Pa×s	343.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0011233	Pa×s	308.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0009733	Pa×s	318.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0009093	Pa×s	323.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0006359	Pa×s	353.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0006713	Pa×s	348.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0013127	Pa×s	298.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0007528	Pa×s	338.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0007998	Pa×s	333.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0010444	Pa×s	313.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
hvapt	53.30	kJ/mol	350.00	NIST Webbook
hvapt	52.60 ± 0.10	kJ/mol	363.00	NIST Webbook
hvapt	50.80	kJ/mol	396.00	NIST Webbook
hvapt	52.40	kJ/mol	408.50	NIST Webbook
hvapt	55.94	kJ/mol	293.00	NIST Webbook
hvapt	55.20	kJ/mol	328.50	NIST Webbook

pvap	14.27	kPa	402.83	Experimental vapor pressures (from 1 Pa to 100 kPa) of six saturated Fatty Acid Methyl Esters (FAMEs): Methyl hexanoate, methyl octanoate, methyl decanoate, methyl dodecanoate, methyl tetradecanoate and methyl hexadecanoate	
pvap	0.03	kPa	292.80	Experimental vapor pressures (from 1 Pa to 100 kPa) of six saturated Fatty Acid Methyl Esters (FAMEs): Methyl hexanoate, methyl octanoate, methyl decanoate, methyl dodecanoate, methyl tetradecanoate and methyl hexadecanoate	
pvap	0.08	kPa	302.87	Experimental vapor pressures (from 1 Pa to 100 kPa) of six saturated Fatty Acid Methyl Esters (FAMEs): Methyl hexanoate, methyl octanoate, methyl decanoate, methyl dodecanoate, methyl tetradecanoate and methyl hexadecanoate	

pvap	0.15	kPa	312.89	Experimental vapor pressures (from 1 Pa to 100 kPa) of six saturated Fatty Acid Methyl Esters (FAMEs): Methyl hexanoate, methyl octanoate, methyl decanoate, methyl dodecanoate, methyl tetradecanoate and methyl hexadecanoate
pvap	0.30	kPa	323.02	Experimental vapor pressures (from 1 Pa to 100 kPa) of six saturated Fatty Acid Methyl Esters (FAMEs): Methyl hexanoate, methyl octanoate, methyl decanoate, methyl dodecanoate, methyl tetradecanoate and methyl hexadecanoate
pvap	0.55	kPa	333.08	Experimental vapor pressures (from 1 Pa to 100 kPa) of six saturated Fatty Acid Methyl Esters (FAMEs): Methyl hexanoate, methyl octanoate, methyl decanoate, methyl dodecanoate, methyl tetradecanoate and methyl hexadecanoate

pvap	0.01	kPa	282.64	Experimental vapor pressures (from 1 Pa to 100 kPa) of six saturated Fatty Acid Methyl Esters (FAMEs): Methyl hexanoate, methyl octanoate, methyl decanoate, methyl dodecanoate, methyl tetradecanoate and methyl hexadecanoate	
pvap	1.67	kPa	353.34	Experimental vapor pressures (from 1 Pa to 100 kPa) of six saturated Fatty Acid Methyl Esters (FAMEs): Methyl hexanoate, methyl octanoate, methyl decanoate, methyl dodecanoate, methyl tetradecanoate and methyl hexadecanoate	
pvap	2.71	kPa	362.45	Experimental vapor pressures (from 1 Pa to 100 kPa) of six saturated Fatty Acid Methyl Esters (FAMEs): Methyl hexanoate, methyl octanoate, methyl decanoate, methyl dodecanoate, methyl tetradecanoate and methyl hexadecanoate	

pvap	4.28	kPa	372.52	Experimental vapor pressures (from 1 Pa to 100 kPa) of six saturated Fatty Acid Methyl Esters (FAMEs): Methyl hexanoate, methyl octanoate, methyl decanoate, methyl dodecanoate, methyl tetradecanoate and methyl hexadecanoate
pvap	6.58	kPa	382.72	Experimental vapor pressures (from 1 Pa to 100 kPa) of six saturated Fatty Acid Methyl Esters (FAMEs): Methyl hexanoate, methyl octanoate, methyl decanoate, methyl dodecanoate, methyl tetradecanoate and methyl hexadecanoate
pvap	9.83	kPa	392.83	Experimental vapor pressures (from 1 Pa to 100 kPa) of six saturated Fatty Acid Methyl Esters (FAMEs): Methyl hexanoate, methyl octanoate, methyl decanoate, methyl dodecanoate, methyl tetradecanoate and methyl hexadecanoate

pvap	20.34	kPa	412.89	Experimental vapor pressures (from 1 Pa to 100 kPa) of six saturated Fatty Acid Methyl Esters (FAMEs): Methyl hexanoate, methyl octanoate, methyl decanoate, methyl dodecanoate, methyl tetradecanoate and methyl hexadecanoate
pvap	28.29	kPa	422.74	Experimental vapor pressures (from 1 Pa to 100 kPa) of six saturated Fatty Acid Methyl Esters (FAMEs): Methyl hexanoate, methyl octanoate, methyl decanoate, methyl dodecanoate, methyl tetradecanoate and methyl hexadecanoate
pvap	38.82	kPa	432.68	Experimental vapor pressures (from 1 Pa to 100 kPa) of six saturated Fatty Acid Methyl Esters (FAMEs): Methyl hexanoate, methyl octanoate, methyl decanoate, methyl dodecanoate, methyl tetradecanoate and methyl hexadecanoate
pvap	2.00	kPa	356.53	Isobaric vapor-liquid equilibrium for binary system of methyl caprylate + methyl caprate at 2, 6 and 10 kPa

pvap	6.00	kPa	380.50	Isobaric vapor-liquid equilibrium for binary system of methyl caprylate + methyl caprate at 2, 6 and 10 kPa
pvap	10.00	kPa	391.77	Isobaric vapor-liquid equilibrium for binary system of methyl caprylate + methyl caprate at 2, 6 and 10 kPa
pvap	0.99	kPa	343.23	Experimental vapor pressures (from 1 Pa to 100 kPa) of six saturated Fatty Acid Methyl Esters (FAMEs): Methyl hexanoate, methyl octanoate, methyl decanoate, methyl dodecanoate, methyl tetradecanoate and methyl hexadecanoate
rfi	1.42385		278.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.42168		283.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.41951		288.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.41734		293.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.41516		298.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.41298		303.15	Thermophysical properties of fatty acid methyl and ethyl esters

rfi	1.41079		308.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.40854		313.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.40629		318.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.40405		323.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.40183		328.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.39965		333.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.39750		338.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.39535		343.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.39320		348.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.38886		358.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.39104		353.15	Thermophysical properties of fatty acid methyl and ethyl esters
tcondl	0.14	W/m×K	313.29	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel

tcondl	0.14	W/m×K	303.21	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel
tcondl	0.14	W/m×K	298.33	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel
tcondl	0.14	W/m×K	293.42	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel
tcondl	0.14	W/m×K	308.29	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel
tcondl	0.14	W/m×K	283.44	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel
tcondl	0.14	W/m×K	278.48	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel
tcondl	0.14	W/m×K	273.56	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel

tcondl	0.13	W/m×K	318.22	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel	
tcondl	0.14	W/m×K	288.35	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel	
tcondl	0.13	W/m×K	323.20	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel	
tcondl	0.13	W/m×K	328.30	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel	
tcondl	0.13	W/m×K	333.41	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel	
tcondl	0.13	W/m×K	338.32	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel	
tcondl	0.13	W/m×K	343.27	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel	

tcondl	0.13	W/m×K	348.12	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel
tcondl	0.13	W/m×K	353.23	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel
tcondl	0.12	W/m×K	358.28	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel
tcondl	0.12	W/m×K	363.09	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel
tcondl	0.12	W/m×K	373.24	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel
tcondl	0.12	W/m×K	368.27	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel
tcondl	0.12	W/m×K	378.21	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel

tcondl	0.12	W/m×K	383.17	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel
tcondl	0.12	W/m×K	388.44	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel
tcondl	0.12	W/m×K	393.54	Experimental investigations on the liquid thermal conductivity of five saturated fatty acid methyl esters components of biodiesel

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	356.20	K	2.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.48748e+01
Coeff. B	-4.07170e+03
Coeff. C	-7.07120e+01
Temperature range (K), min.	349.84
Temperature range (K), max.	496.47

Datasets

Mass density, kg/m3

Temperature, K - Liquid	Pressure, kPa - Liquid	Mass density, kg/m3 - Liquid
293.15	100.00	876.9
293.15	1000.00	877.02
293.15	3000.00	878.65
293.15	5000.00	879.78
293.15	10000.00	883.45
293.15	15000.00	886.82
293.15	20000.00	890.07
293.15	25000.00	893.28
293.15	30000.00	896.35
293.15	35000.00	899.25
293.15	40000.00	902.05
293.15	50000.00	907.81
293.15	60000.00	912.62
303.15	100.00	867.63
303.15	1000.00	868.42
303.15	3000.00	869.93
303.15	5000.00	871.47
303.15	10000.00	875.12
303.15	15000.00	878.71
303.15	20000.00	882.04
303.15	25000.00	885.35
303.15	30000.00	888.57
303.15	35000.00	891.59
303.15	40000.00	894.49
303.15	50000.00	900.27
303.15	60000.00	905.64
313.15	100.00	859.3
313.15	1000.00	859.59
313.15	3000.00	861.28
313.15	5000.00	862.89
313.15	10000.00	866.8
313.15	15000.00	870.52
313.15	20000.00	874.1
313.15	25000.00	877.59
313.15	30000.00	880.87

313.15	35000.00	884.11
313.15	40000.00	887.04
313.15	50000.00	893.07
313.15	60000.00	898.5
323.15	100.00	850.11
323.15	1000.00	850.91
323.15	3000.00	852.59
323.15	5000.00	854.3
323.15	10000.00	858.46
323.15	15000.00	862.36
323.15	20000.00	866.24
323.15	25000.00	869.67
323.15	30000.00	873.15
323.15	35000.00	876.46
323.15	40000.00	879.75
323.15	50000.00	885.93
323.15	60000.00	891.84
333.15	100.00	841.41
333.15	1000.00	842.13
333.15	3000.00	844.08
333.15	5000.00	845.82
333.15	10000.00	850.11
333.15	15000.00	854.18
333.15	20000.00	858.22
333.15	25000.00	862.06
333.15	30000.00	865.57
333.15	35000.00	869.05
333.15	40000.00	872.61
333.15	50000.00	878.98
333.15	60000.00	884.95
343.15	100.00	832.2
343.15	1000.00	833.32
343.15	3000.00	835.25
343.15	5000.00	837.24
343.15	10000.00	841.71
343.15	15000.00	846.06
343.15	20000.00	850.39
343.15	25000.00	854.17
343.15	30000.00	858.07
343.15	35000.00	861.81
343.15	40000.00	865.19
343.15	50000.00	872.01
343.15	60000.00	877.98
353.15	100.00	823.55

353.15	1000.00	824.37
353.15	3000.00	826.59
353.15	5000.00	828.51
353.15	10000.00	833.34
353.15	15000.00	838.05
353.15	20000.00	842.32
353.15	25000.00	846.49
353.15	30000.00	850.48
353.15	35000.00	854.32
353.15	40000.00	857.88
353.15	50000.00	864.82
353.15	60000.00	871.35
363.15	100.00	814.86
363.15	1000.00	815.91
363.15	3000.00	818.18
363.15	5000.00	820.31
363.15	10000.00	825.1
363.15	15000.00	830.33
363.15	20000.00	834.62
363.15	25000.00	838.84
363.15	30000.00	843.09
363.15	35000.00	847.13
363.15	40000.00	851.06
363.15	50000.00	858.24
363.15	60000.00	865.07

Reference *https://www.doi.org/10.1016/j.fluid.2018.04.024*

Speed of sound, m/s

Temperature, K - Liquid	Pressure, kPa - Liquid	Speed of sound, m/s - Liquid
298.84	90.00	1274.5
308.42	100.00	1236.4
319.59	110.00	1192.3
328.36	100.00	1158.0
337.63	100.00	1121.6
348.45	110.00	1078.6
358.16	100.00	1044.6
367.29	110.00	1015.5
378.27	100.00	975.6
387.15	110.00	947.3

397.71	100.00	910.7
408.14	100.00	873.1
417.49	110.00	841.4
427.78	110.00	811.6
438.55	100.00	775.1
448.01	110.00	744.4
298.44	1010.00	1292.1
308.52	1010.00	1248.8
319.89	1010.00	1194.5
328.88	1010.00	1155.4
338.43	1010.00	1125.5
348.80	1000.00	1085.5
358.56	1010.00	1049.3
368.05	1000.00	1017.5
377.80	1000.00	989.1
388.02	1000.00	952.1
397.22	1010.00	922.4
409.43	1000.00	879.8
417.31	1010.00	850.6
427.90	1010.00	822.3
438.61	1000.00	780.2
447.87	1010.00	754.6
388.04	5000.00	978.4
397.59	5010.00	949.2
407.84	5010.00	916.3
417.49	5000.00	885.5
427.95	5010.00	855.8
438.87	5000.00	823.4
447.88	5000.00	793.5
458.07	5010.00	760.9
467.90	5000.00	738.9
476.82	5010.00	710.8
486.92	5010.00	682.0
498.41	5000.00	644.1
507.91	5010.00	620.4
517.81	5000.00	594.2
528.28	5010.00	569.1
537.67	5000.00	543.3
547.13	5010.00	516.0
557.94	5010.00	489.3
567.70	5000.00	461.0
577.79	5000.00	432.1
588.02	5010.00	411.1
598.29	5010.00	384.1

608.23	5000.00	353.7
298.22	7000.00	1316.3
308.49	7010.00	1280.4
318.56	7020.00	1229.5
328.69	7010.00	1191.4
337.88	7010.00	1157.9
348.77	7000.00	1120.5
358.25	7000.00	1095.1
367.73	7010.00	1060.7
378.03	7000.00	1027.3
457.92	1000.00	724.7
468.47	1010.00	694.8
477.06	1000.00	665.0
486.80	1000.00	631.0
498.83	1000.00	596.6
507.85	1010.00	568.9
517.73	1000.00	534.7
527.60	1010.00	500.0
537.38	1000.00	472.9
547.06	1000.00	438.8
557.84	1000.00	403.8
567.35	1010.00	371.2
298.60	3000.00	1298.2
308.25	3010.00	1258.8
318.91	3010.00	1208.0
328.11	3020.00	1171.3
338.96	3000.00	1134.3
347.39	3000.00	1104.6
357.69	3010.00	1071.8
367.28	3000.00	1038.1
378.60	3000.00	1000.4
387.64	3000.00	964.7
397.37	3010.00	934.0
408.03	3000.00	896.1
417.75	3000.00	867.9
427.93	3010.00	837.5
438.94	3010.00	803.1
447.96	3010.00	776.7
458.17	3000.00	744.1
468.68	3000.00	713.7
477.88	3010.00	685.8
486.87	3000.00	654.3
498.13	3010.00	625.4
388.01	7000.00	991.8

397.57	7010.00	963.7
408.48	7010.00	933.8
417.57	7000.00	904.2
427.88	7010.00	873.7
438.81	7000.00	838.7
447.92	7000.00	813.8
458.12	7010.00	782.2
467.58	7010.00	759.7
477.26	7010.00	729.0
486.96	7010.00	700.0
498.28	7000.00	667.5
507.87	7000.00	646.1
517.79	7000.00	619.0
527.51	7010.00	600.0
537.57	7000.00	569.9
547.67	7000.00	544.0
558.16	7000.00	515.9
567.81	7000.00	495.4
577.89	7000.00	469.8
588.47	7010.00	450.4
598.07	7000.00	426.9
608.09	7010.00	400.7
298.30	10010.00	1327.9
308.37	10010.00	1291.2
318.76	10010.00	1242.4
328.82	10010.00	1209.9
338.46	10010.00	1174.8
347.87	10010.00	1148.4
357.91	10000.00	1112.7
367.47	10010.00	1078.4
378.29	10000.00	1047.1
387.88	10010.00	1017.7
507.89	3010.00	596.3
517.71	3000.00	567.5
527.66	3010.00	537.5
537.63	3010.00	511.3
547.87	3000.00	480.9
558.20	3000.00	448.0
567.91	3010.00	418.8
577.40	3010.00	389.4
587.88	3000.00	361.9
597.58	3000.00	331.4
608.38	3000.00	294.3
298.44	5000.00	1307.1

308.58	5010.00	1270.1
318.18	5010.00	1221.3
327.96	5010.00	1186.0
338.47	5000.00	1147.2
348.54	5020.00	1109.1
357.74	5000.00	1079.2
367.26	5000.00	1049.2
378.16	4990.00	1013.1
397.49	10010.00	988.0
408.01	10010.00	954.1
417.65	10000.00	925.4
427.94	10010.00	899.7
438.61	10010.00	866.1
447.96	10000.00	841.0
458.18	10010.00	810.7
467.43	10010.00	784.5
477.00	10010.00	759.6
487.00	10010.00	738.2
498.28	10000.00	705.0
507.91	10000.00	680.6
518.17	10000.00	658.9
528.05	10000.00	631.9
537.72	9990.00	609.6
547.47	10010.00	583.9
558.18	10010.00	561.2
567.95	10010.00	543.8
578.16	10000.00	522.9

Reference *https://www.doi.org/10.1021/acs.jced.9b00371*

Viscosity, Pa*s

Temperature, K - Liquid	Pressure, kPa - Liquid	Viscosity, Pa*s - Liquid
295.62	102.00	0.0013700
295.48	5004.00	0.0014300
295.30	10017.00	0.0015000
295.22	14978.00	0.0015800
295.08	19995.00	0.0016500
294.79	25004.00	0.0017300
294.65	30063.00	0.0018100
303.16	98.00	0.0012100

303.13	5014.00	0.0012700
303.14	9987.00	0.0013300
303.13	15018.00	0.0013900
303.11	20009.00	0.0014600
303.10	25013.00	0.0015200
303.06	29942.00	0.0015800
312.51	101.00	0.0010500
312.49	5022.00	0.0011000
312.44	10045.00	0.0011500
312.47	15056.00	0.0012100
312.44	20035.00	0.0012700
312.40	25014.00	0.0013200
312.35	29980.00	0.0013700
322.09	103.00	0.0009200
322.02	5045.00	0.0009700
321.97	9991.00	0.0010100
322.11	14992.00	0.0010600
322.06	20031.00	0.0011100
321.89	25073.00	0.0011600
321.71	29998.00	0.0012100
331.87	108.00	0.0008200
331.62	5013.00	0.0008600
331.73	10033.00	0.0009100
331.72	15022.00	0.0009500
331.61	20038.00	0.0010000
331.60	25035.00	0.0010400
331.51	29993.00	0.0010800
341.66	97.00	0.0007200
341.63	4984.00	0.0007600
341.64	10011.00	0.0008000
341.61	15013.00	0.0008400
341.62	20045.00	0.0008800
341.56	25026.00	0.0009200
341.44	29966.00	0.0009600
351.58	103.00	0.0006400
351.60	4996.00	0.0006800
351.64	10072.00	0.0007200
351.65	15006.00	0.0007500
351.70	19996.00	0.0007900
351.78	25021.00	0.0008300
351.62	29959.00	0.0008700
361.45	103.00	0.0005800
361.23	4990.00	0.0006100
361.20	9990.00	0.0006400

361.44	15037.00	0.0006800
361.41	19980.00	0.0007200
361.59	25011.00	0.0007400
361.74	29991.00	0.0007800

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Legend

chl:	Standard liquid enthalpy of combustion
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
hvapt:	Enthalpy of vaporization at a given temperature

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
ripol:	Polar retention indices
speedsl:	Speed of sound in fluid
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tcondl:	Liquid thermal conductivity
tf:	Normal melting (fusion) point
vc:	Critical Volume