Decanoic acid, methyl ester

Other names:	Capric acid methyl ester
	Metholene 2095
	Methyl caprate
	Methyl caprinate
	Methyl decanoate
	Methyl n-decanoate
	Methyl tridecanoate
	Methyl-n-caprate
	Uniphat A30
	capric acid, methyl ester
	n-Capric acid methyl ester
Inchi:	InChI=1S/C11H22O2/c1-3-4-5-6-7-8-9-10-11(12)13-2/h3-10H2,1-2H3
InchiKey:	YRHYCMZPEVDGFQ-UHFFFAOYSA-N
Formula:	C11H22O2
SMILES:	CCCCCCCCCC(=O)OC
Mol. weight [g/mol]:	186.29
CAS:	110-42-9

Physical Properties

Property code	Value	Unit	Source
chl	-6831.90 ± 1.70	kJ/mol	NIST Webbook
chl	-6799.00 ± 0.40	kJ/mol	NIST Webbook
gf	-192.18	kJ/mol	Joback Method
hf	-515.17	kJ/mol	Joback Method
hfus	35.92	kJ/mol	Heat Capacity Measurements of 13 Methyl Esters of n-Carboxylic Acids from Methyloctanoate to Methyleicosanoate between 5 K and 350 K
hvap	66.10 ± 0.20	kJ/mol	NIST Webbook
hvap	66.30 ± 0.50	kJ/mol	NIST Webbook
hvap	66.75 ± 0.57	kJ/mol	NIST Webbook
hvap	66.90	kJ/mol	NIST Webbook
hvap	66.80 ± 0.60	kJ/mol	NIST Webbook
log10ws	-4.63		Aqueous Solubility Prediction Method

log10ws	-4.69		Estimated Solubility Method
logp	3.300		Crippen Method
mcvol	173.290	ml/mol	McGowan Method
pc	2014.51	kPa	Joback Method
rinpol	1324.00		NIST Webbook
rinpol	1325.00		NIST Webbook
rinpol	1325.10		NIST Webbook
rinpol	1328.00		NIST Webbook
rinpol	1326.00		NIST Webbook
rinpol	1326.00		NIST Webbook
rinpol	1325.00		NIST Webbook
rinpol	1325.00		NIST Webbook
rinpol	1309.00		NIST Webbook
rinpol	1324.00		NIST Webbook
rinpol	1326.00		NIST Webbook
rinpol	1306.00		NIST Webbook
rinpol	1312.00		NIST Webbook
rinpol	1310.00		NIST Webbook
rinpol	1311.40		NIST Webbook
rinpol	1307.00		NIST Webbook
rinpol	1306.20		NIST Webbook
rinpol	1306.60		NIST Webbook
rinpol	1309.00		NIST Webbook
rinpol	1303.76		NIST Webbook
rinpol	1309.67		NIST Webbook
rinpol	1309.08		NIST Webbook
rinpol	1320.62		NIST Webbook
rinpol	1311.06		NIST Webbook
rinpol	1313.09		NIST Webbook
rinpol	1306.48		NIST Webbook
rinpol	1324.00		NIST Webbook
rinpol	1327.00		NIST Webbook
rinpol	1322.60		NIST Webbook
rinpol	1328.60		NIST Webbook
rinpol	1326.00		NIST Webbook
rinpol	1306.00		NIST Webbook
rinpol	1307.00		NIST Webbook
rinpol	1309.00		NIST Webbook
rinpol	1321.00		NIST Webbook
rinpol	1305.00		NIST Webbook
rinpol	1316.00		NIST Webbook
rinpol	1325.00		NIST Webbook
rinpol	1325.00		NIST Webbook
rinpol	1326.00		NIST Webbook

rinpol	1325.00	NIST Webbook
rinpol	1326.00	NIST Webbook
rinpol	1333.00	NIST Webbook
rinpol	1327.00	NIST Webbook
rinpol	1326.00	NIST Webbook
rinpol	1311.00	NIST Webbook
rinpol	1327.00	NIST Webbook
rinpol	1326.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1326.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1308.00	NIST Webbook
rinpol	1313.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1308.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1323.00	NIST Webbook
rinpol	1326.00	NIST Webbook
rinpol	1325.00	NIST Webbook
rinpol	1328.00	NIST Webbook
rinpol	1325.00	NIST Webbook
rinpol	1326.00	NIST Webbook
rinpol	1322.00	NIST Webbook
rinpol	1326.00	NIST Webbook
rinpol	1302.00	NIST Webbook
rinpol	1324.00	NIST Webbook
rinpol	1324.00	NIST Webbook
rinpol	1325.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1329.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1328.00	NIST Webbook
rinpol	1328.00	NIST Webbook
rinpol	1314.00	NIST Webbook
rinpol	1309.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1308.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	224.56	NIST Webbook
rinpol	226.16	NIST Webbook

rinpol	230.80	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	226.04	NIST Webbook
rinpol	1324.00	NIST Webbook
rinpol	1328.00	NIST Webbook
rinpol	1308.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1310.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1312.00	NIST Webbook
rinpol	1321.00	NIST Webbook
rinpol	1313.00	NIST Webbook
rinpol	1319.30	NIST Webbook
rinpol	1323.80	NIST Webbook
rinpol	226.04	NIST Webbook
rinpol	1310.00	NIST Webbook
ripol	1570.00	NIST Webbook
ripol	1598.30	NIST Webbook
ripol	1603.00	NIST Webbook
ripol	1605.20	NIST Webbook
ripol	1616.30	NIST Webbook
ripol	1592.50	NIST Webbook
ripol	1600.70	NIST Webbook
ripol	1606.90	NIST Webbook
ripol	1613.20	NIST Webbook
ripol	1581.00	NIST Webbook
ripol	1581.00	NIST Webbook
ripol	1592.00	NIST Webbook
ripol	1593.00	NIST Webbook
ripol	1615.00	NIST Webbook
ripol	1586.00	NIST Webbook
ripol	1583.00	NIST Webbook
ripol	1614.00	NIST Webbook
ripol	1597.00	NIST Webbook
ripol	1603.00	NIST Webbook
ripol	1586.00	NIST Webbook
ripol	1590.00	NIST Webbook
ripol	1613.00	NIST Webbook
ripol	1585.00	NIST Webbook
ripol	1594.00	NIST Webbook
ripol	1604.00	NIST Webbook
ripol	1599.00	NIST Webbook
ripol	1550.00	NIST Webbook

ripol	1552.00		NIST Webbook
ripol	1584.00		NIST Webbook
ripol	1586.00		NIST Webbook
ripol	1596.00		NIST Webbook
ripol	1581.00		NIST Webbook
ripol	1602.00		NIST Webbook
ripol	1583.00		NIST Webbook
ripol	1624.00		NIST Webbook
ripol	1595.00		NIST Webbook
ripol	1593.00		NIST Webbook
ripol	1600.00		NIST Webbook
ripol	1585.00		NIST Webbook
ripol	1628.00		NIST Webbook
ripol	1628.00		NIST Webbook
ripol	1597.00		NIST Webbook
ripol	1628.00		NIST Webbook
ripol	1585.00		NIST Webbook
ripol	1581.00		NIST Webbook
ripol	1573.00		NIST Webbook
ripol	1600.00		NIST Webbook
ripol	1586.00		NIST Webbook
ripol	1590.00		NIST Webbook
ripol	1636.00		NIST Webbook
ripol	1593.00		NIST Webbook
tb	497.20	K	NIST Webbook
tb	497.05 ± 1.00	K	NIST Webbook
tc	698.36	K	Joback Method
tf	260.40 ± 0.05	K	NIST Webbook
vc	0.675	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	444.58	J/mol×K	584.37	Joback Method
cpg	430.19	J/mol×K	555.87	Joback Method
cpg	496.57	J/mol×K	698.36	Joback Method
cpg	484.39	J/mol×K	669.86	Joback Method
cpg	471.67	J/mol×K	641.36	Joback Method
cpg	458.41	J/mol×K	612.87	Joback Method
cpg	415.24	J/mol×K	527.37	Joback Method
cpl	382.80	J/mol×K	298.15	NIST Webbook

cpl	417.20	J/mol×K	373.15	Heat capacities and thermal diffusivities of some n-alkanoic acid methyl esters	
cpl	412.40	J/mol×K	363.15	Heat capacities and thermal diffusivities of some n-alkanoic acid methyl esters	
cpl	407.30	J/mol×K	353.15	Heat capacities and thermal diffusivities of some n-alkanoic acid methyl esters	
cpl	401.90	J/mol×K	343.15	Heat capacities and thermal diffusivities of some n-alkanoic acid methyl esters	
cpl	396.70	J/mol×K	333.15	Heat capacities and thermal diffusivities of some n-alkanoic acid methyl esters	
cpl	391.80	J/mol×K	323.15	Heat capacities and thermal diffusivities of some n-alkanoic acid methyl esters	
cpl	387.60	J/mol×K	313.15	Heat capacities and thermal diffusivities of some n-alkanoic acid methyl esters	
cpl	384.70	J/mol×K	303.15	Heat capacities and thermal diffusivities of some n-alkanoic acid methyl esters	
dvisc	0.0017601	Pa×s	303.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters	
dvisc	0.0008342	Pa×s	353.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters	
dvisc	0.0008886	Pa×s	348.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters	

dvisc	0.0009477	Pa×s	343.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0010864	Pa×s	333.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0026543	Pa×s	283.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0023733	Pa×s	288.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0007859	Pa×s	358.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0021360	Pa×s	293.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0019335	Pa×s	298.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0007421	Pa×s	363.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0016091	Pa×s	308.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0014773	Pa×s	313.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0013613	Pa×s	318.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0012589	Pa×s	323.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0011675	Pa×s	328.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0029888	Pa×s	278.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0010133	Pa×s	338.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters

hvapt	63.00	kJ/mol	347.00	NIST Webbook
hvapt	63.05	kJ/mol	293.00	NIST Webbook
hvapt	57.10	kJ/mol	439.50	NIST Webbook
hvapt	62.90 ± 0.10	kJ/mol	337.00	NIST Webbook
hvapt	62.00	kJ/mol	350.00	NIST Webbook
hvapt	49.90	kJ/mol	498.00	NIST Webbook
pvap	3.15e-03	kPa	291.81	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	8.44e-04	kPa	278.69	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	8.87e-04	kPa	279.18	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	9.34e-04	kPa	279.66	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	9.82e-04	kPa	280.15	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.03e-03	kPa	280.64	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics

pvap	1.09e-03	kPa	281.12	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.13e-03	kPa	281.47	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.31e-03	kPa	282.96	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.39e-03	kPa	283.48	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.53e-03	kPa	284.46	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.61e-03	kPa	284.96	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.69e-03	kPa	285.43	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics

pvap	1.73e-03	kPa	285.64	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.74e-03	kPa	285.74	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.78e-03	kPa	285.95	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.87e-03	kPa	286.44	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.97e-03	kPa	286.95	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	2.06e-03	kPa	287.44	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	2.17e-03	kPa	287.94	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics

pvap	2.17e-03	kPa	287.94	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	2.39e-03	kPa	288.93	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	2.49e-03	kPa	289.31	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	2.51e-03	kPa	289.43	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	2.76e-03	kPa	290.42	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	2.79e-03	kPa	290.53	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	2.89e-03	kPa	290.92	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics

pvap	8.03e-04	kPa	278.20	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	
pvap	3.18e-03	kPa	291.92	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	
pvap	3.34e-03	kPa	292.42	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	
pvap	3.50e-03	kPa	292.90	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	
pvap	3.67e-03	kPa	293.41	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	
pvap	3.84e-03	kPa	293.91	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	
pvap	3.99e-03	kPa	294.30	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	

pvap	4.22e-03	kPa	294.90	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	4.41e-03	kPa	295.40	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	4.44e-03	kPa	295.51	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	4.62e-03	kPa	295.90	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	4.84e-03	kPa	296.39	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	4.99e-03	kPa	296.77	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	5.30e-03	kPa	297.39	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics

pvap	5.53e-03	kPa	297.89	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	5.57e-03	kPa	297.98	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	6.06e-03	kPa	298.88	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	6.34e-03	kPa	299.38	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	6.92e-03	kPa	300.37	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	6.95e-03	kPa	300.46	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	7.24e-03	kPa	300.87	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics

pvap	7.89e-03	kPa	301.87	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	8.24e-03	kPa	302.37	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	8.52e-03	kPa	302.84	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	8.63e-03	kPa	302.94	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	8.98e-03	kPa	303.36	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	9.24e-03	kPa	303.76	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	9.30e-03	kPa	303.81	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics

pvap	9.29e-03	kPa	303.82	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	
pvap	9.29e-03	kPa	303.82	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	
pvap	9.37e-03	kPa	303.86	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	
pvap	0.01	kPa	304.85	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	
pvap	0.01	kPa	304.85	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	
pvap	0.01	kPa	305.24	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	
pvap	0.01	kPa	305.26	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	

pvap	0.01	kPa	305.29	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	0.01	kPa	305.35	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	0.01	kPa	305.42	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	7.60e-04	kPa	277.71	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	7.23e-04	kPa	277.23	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	6.85e-04	kPa	276.74	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	6.49e-04	kPa	276.26	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics

pvap	6.15e-04	kPa	275.77	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	
pvap	5.88e-04	kPa	275.29	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	
pvap	5.54e-04	kPa	274.80	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	
pvap	5.25e-04	kPa	274.32	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	
pvap	4.98e-04	kPa	273.84	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	
pvap	4.73e-04	kPa	273.35	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics	
pvap	6.00	kPa	413.57	Isobaric vapor-liquid equilibrium for binary system of methyl caprate + methyl laurate at 2, 4 and 6 kPa	

pvap	4.00	kPa	404.15	Isobaric vapor-liquid equilibrium for binary system of methyl caprate + methyl laurate at 2, 4 and 6 kPa
pvap	2.00	kPa	389.10	Isobaric vapor-liquid equilibrium for binary system of methyl caprate + methyl laurate at 2, 4 and 6 kPa
pvap	10.00	kPa	424.43	Isobaric vapor-liquid equilibrium for binary system of methyl caprylate + methyl caprate at 2, 6 and 10 kPa
pvap	6.00	kPa	412.93	Isobaric vapor-liquid equilibrium for binary system of methyl caprylate + methyl caprate at 2, 6 and 10 kPa
pvap	2.00	kPa	389.10	Isobaric vapor-liquid equilibrium for binary system of methyl caprylate + methyl caprate at 2, 6 and 10 kPa
pvap	8.89	kPa	422.71	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	6.01	kPa	412.79	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	3.92	kPa	402.71	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	2.52	kPa	392.75	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	1.56	kPa	382.62	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	0.93	kPa	372.54	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	0.31	kPa	352.40	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	0.17	kPa	343.30	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	0.09	kPa	333.13	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	0.04	kPa	323.04	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	0.02	kPa	313.01	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	8.40e-03	kPa	302.97	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	3.49e-03	kPa	292.87	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	0.56	kPa	362.72	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	12.80	kPa	432.65	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	1.41295		323.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.42783		288.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.42571		293.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.42148		303.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.42359		298.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.41938		308.15	Thermophysical properties of fatty acid methyl and ethyl esters

rfi	1.41726	313.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.42995	283.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.42350	298.15	Measurement and Prediction of Excess Properties of Binary Mixtures Methyl Decanoate + an Even-Numbered n-Alkane (C6-C16) at 298.15 K
rfi	1.39819	358.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.40028	353.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.40237	348.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.40448	343.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.41510	318.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.40871	333.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.41083	328.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.40659	338.15	Thermophysical properties of fatty acid methyl and ethyl esters
rfi	1.43209	278.15	Thermophysical properties of fatty acid methyl and ethyl esters

rhol	872.25	kg/m3	293.15	Measurement and correlation of density and viscosity of binary mixtures of fatty acid (methyl esters + methylcyclohexane)
rhol	868.16	kg/m3	298.15	Measurement and correlation of density and viscosity of binary mixtures of fatty acid (methyl esters + methylcyclohexane)
rhol	864.06	kg/m3	303.15	Measurement and correlation of density and viscosity of binary mixtures of fatty acid (methyl esters + methylcyclohexane)
rhol	859.96	kg/m3	308.15	Measurement and correlation of density and viscosity of binary mixtures of fatty acid (methyl esters + methylcyclohexane)
rhol	855.85	kg/m3	313.15	Measurement and correlation of density and viscosity of binary mixtures of fatty acid (methyl esters + methylcyclohexane)
rhol	851.74	kg/m3	318.15	Measurement and correlation of density and viscosity of binary mixtures of fatty acid (methyl esters + methylcyclohexane)
rhol	847.62	kg/m3	323.15	Measurement and correlation of density and viscosity of binary mixtures of fatty acid (methyl esters + methylcyclohexane)

tcondl	0.14	W/m×K	311.66	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.15	W/m×K	277.07	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.15	W/m×K	267.11	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.14	W/m×K	288.82	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.15	W/m×K	267.10	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.14	W/m×K	288.84	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.14	W/m×K	300.83	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel

tcondl	0.15	W/m×K	277.00	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.14	W/m×K	300.86	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.14	W/m×K	311.87	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.14	W/m×K	324.72	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.14	W/m×K	324.92	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.13	W/m×K	336.71	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.13	W/m×K	336.71	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel

tcondl	0.13	W/m×K	348.66	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.13	W/m×K	348.81	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.13	W/m×K	354.58	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.13	W/m×K	354.59	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.13	W/m×K	360.11	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.13	W/m×K	360.61	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.13	W/m×K	368.98	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel

tcondl	0.13	W/m×K	369.47	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.12	W/m×K	379.50	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.12	W/m×K	379.65	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.12	W/m×K	389.35	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.12	W/m×K	389.39	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.12	W/m×K	399.87	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel
tcondl	0.12	W/m×K	399.95	Experimental studies on the liquid thermal conductivity of three saturated fatty acid methyl esters components of biodiesel

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	381.20	K	1.30	NIST Webbook
tbrp	387.20	K	2.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.61003e+01
Coeff. B	-4.73527e+03
Coeff. C	-8.15400e+01
Temperature range (K), min.	381.00
Temperature range (K), max.	520.45

Datasets

Molar heat capacity at constant pressure, J/K/mol

Pressure, kPa - Liquid	Temperature, K - Liquid	Molar heat capacity at constant pressure, J/K/mol - Liquid
100.00	313.71	383.90
4070.00	313.82	382.10
8030.00	313.83	380.50
12010.00	313.99	378.50
16140.00	314.01	376.60
100.00	324.79	387.60
4070.00	324.79	386.00
8030.00	325.01	384.40
12010.00	325.06	382.50

16140.00	325.20	379.30
100.00	334.12	393.20
4070.00	334.53	390.30
8030.00	334.33	388.30
12010.00	334.60	386.20
16140.00	334.84	384.20

Reference *https://www.doi.org/10.1016/j.tca.2017.02.015*

Viscosity, Pa*s

Pressure, kPa - Liquid	Temperature, K - Liquid	Viscosity, Pa*s - Liquid
101.30	293.15	0.0021500
20000.00	293.15	0.0026600
40000.00	293.15	0.0032400
60000.00	293.15	0.0039100
80000.00	293.15	0.0046700
100000.00	293.15	0.0055300
120000.00	293.15	0.0065200
140000.00	293.15	0.0076600
160000.00	293.15	0.0089600
101.30	313.15	0.0014600
20000.00	313.15	0.0018300
40000.00	313.15	0.0022100
60000.00	313.15	0.0026500
80000.00	313.15	0.0031200
100000.00	313.15	0.0036300
120000.00	313.15	0.0042100
140000.00	313.15	0.0048500
160000.00	313.15	0.0055600
180000.00	313.15	0.0063500
200000.00	313.15	0.0072400
101.30	333.15	0.0010700
20000.00	333.15	0.0013200
40000.00	333.15	0.0015800
60000.00	333.15	0.0018600
80000.00	333.15	0.0021700
100000.00	333.15	0.0025000
120000.00	333.15	0.0028600
140000.00	333.15	0.0032600
160000.00	333.15	0.0037000

180000.00	333.15	0.0041800
200000.00	333.15	0.0047000
101.30	353.15	0.0008250
20000.00	353.15	0.0010100
40000.00	353.15	0.0012100
60000.00	353.15	0.0014200
80000.00	353.15	0.0016400
100000.00	353.15	0.0018800
120000.00	353.15	0.0021300
140000.00	353.15	0.0024100
160000.00	353.15	0.0027100
180000.00	353.15	0.0030300
200000.00	353.15	0.0033800

Reference *https://www.doi.org/10.1021/je500980a*

Mass density, kg/m3

Temperature, K - Liquid	Pressure, kPa - Liquid	Mass density, kg/m3 - Liquid
298.15	100.00	868.0
298.15	3000.00	870.0
298.15	6000.00	872.0
298.15	9000.00	874.0
298.15	12000.00	877.0
298.15	15000.00	878.0
308.15	100.00	860.0
308.15	3010.00	862.0
308.15	6000.00	864.0
308.15	9000.00	866.0
308.15	12000.00	869.0
308.15	15000.00	871.0
318.15	100.00	853.0
318.15	3000.00	854.0
318.15	6000.00	856.0
318.15	9000.00	859.0
318.15	12000.00	861.0
318.15	15000.00	863.0

Reference *https://www.doi.org/10.1016/j.tca.2018.10.018*

Speed of sound, m/s

Temperature, K - Liquid	Pressure, kPa - Liquid	Speed of sound, m/s - Liquid
283.15	101.30	1362.6
283.15	10000.00	1408.9
283.15	20000.00	1452.2
283.15	30000.00	1493.2
283.15	40000.00	1531.7
283.15	50000.00	1568.0
283.15	60000.00	1602.6
283.15	70000.00	1634.5
283.15	80000.00	1666.4
283.15	90000.00	1696.9
283.15	100000.00	1726.9
283.15	110000.00	1755.2
283.15	120000.00	1783.4
283.15	130000.00	1809.5
283.15	140000.00	1835.9
303.15	101.30	1287.7
303.15	10000.00	1339.2
303.15	20000.00	1385.8
303.15	30000.00	1429.6
303.15	40000.00	1470.3
303.15	50000.00	1508.7
303.15	60000.00	1544.9
303.15	70000.00	1580.2
303.15	80000.00	1614.1
303.15	90000.00	1646.1
303.15	100000.00	1676.9
303.15	110000.00	1706.8
303.15	120000.00	1735.1
303.15	130000.00	1762.8
303.15	140000.00	1789.2
303.15	150000.00	1815.2
303.15	170000.00	1864.9
303.15	190000.00	1912.7
303.15	210000.00	1957.6
323.15	101.30	1214.8
323.15	10000.00	1269.1
323.15	20000.00	1319.3
323.15	30000.00	1365.7
323.15	40000.00	1409.0

323.15	50000.00	1449.5
323.15	60000.00	1487.8
323.15	70000.00	1524.0
323.15	80000.00	1558.3
323.15	90000.00	1591.2
323.15	100000.00	1623.3
323.15	110000.00	1653.9
323.15	120000.00	1684.6
323.15	130000.00	1711.9
323.15	140000.00	1739.6
323.15	150000.00	1765.9
323.15	170000.00	1817.0
323.15	190000.00	1864.8
323.15	210000.00	1910.9
343.15	101.30	1142.8
343.15	10000.00	1202.4
343.15	20000.00	1255.9
343.15	30000.00	1304.9
343.15	40000.00	1350.5
343.15	50000.00	1393.5
343.15	60000.00	1433.7
343.15	70000.00	1471.7
343.15	80000.00	1508.2
343.15	90000.00	1541.7
343.15	100000.00	1574.1
343.15	110000.00	1606.0
343.15	120000.00	1636.2
343.15	130000.00	1665.9
343.15	140000.00	1694.0
343.15	150000.00	1721.2
343.15	170000.00	1773.2
343.15	190000.00	1822.0
343.15	210000.00	1868.7
363.15	10000.00	1138.5
363.15	20000.00	1195.9
363.15	30000.00	1247.9
363.15	40000.00	1296.3
363.15	50000.00	1341.1
363.15	60000.00	1382.7
363.15	70000.00	1421.6
363.15	80000.00	1458.4
363.15	90000.00	1493.8
363.15	100000.00	1527.4
363.15	110000.00	1559.7

363.15	120000.00	1590.9
363.15	130000.00	1620.7
363.15	140000.00	1649.4
363.15	150000.00	1677.2
363.15	170000.00	1730.6
363.15	190000.00	1780.4
363.15	210000.00	1827.2
383.15	10000.00	1077.4
383.15	20000.00	1138.6
383.15	30000.00	1193.5
383.15	40000.00	1244.5
383.15	50000.00	1291.3
383.15	60000.00	1334.9
383.15	70000.00	1375.4
383.15	80000.00	1414.2
383.15	90000.00	1450.6
383.15	100000.00	1485.3
383.15	110000.00	1518.9
383.15	120000.00	1550.9
383.15	130000.00	1581.2
383.15	140000.00	1610.8
383.15	150000.00	1641.0
383.15	170000.00	1692.7
383.15	190000.00	1743.0
383.15	210000.00	1791.1
403.15	10000.00	1017.7
403.15	20000.00	1083.2
403.15	30000.00	1141.7
403.15	40000.00	1194.7
403.15	50000.00	1242.9
403.15	60000.00	1288.1
403.15	70000.00	1330.6
403.15	80000.00	1370.3
403.15	90000.00	1407.7
403.15	100000.00	1442.8
403.15	110000.00	1476.6
403.15	120000.00	1509.7
403.15	130000.00	1541.7
403.15	140000.00	1571.6
403.15	150000.00	1600.1
403.15	170000.00	1655.5
403.15	190000.00	1706.6
403.15	210000.00	1754.5

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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

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