

# Hexadecanoic acid, methyl ester

<b>Other names:</b>	Acide hexadecanoique methyl ester Emery 2216 Metholene 2216 Methyl hexadecanoate Methyl n-hexadecanoate Methyl palmitate Palmitic acid, methyl ester Radia 7120 Uniphat A60 n-Hexadecanoic acid methyl ester
<b>Inchi:</b>	InChI=1S/C17H34O2/c1-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17(18)19-2/h3-16H2,1-2H3
<b>InchiKey:</b>	FLIACVVOZYBSBS-UHFFFAOYSA-N
<b>Formula:</b>	C17H34O2
<b>SMILES:</b>	CCCCCCCCCCCCCCCC(=O)OC
<b>Mol. weight [g/mol]:</b>	270.45
<b>CAS:</b>	112-39-0

## Physical Properties

Property code	Value	Unit	Source
chl	-10107.00 ± 3.80	kJ/mol	NIST Webbook
chs	-10669.00 ± 0.40	kJ/mol	NIST Webbook
gf	-141.66	kJ/mol	Joback Method
hf	-639.01	kJ/mol	Joback Method
hfl	-1441.80 ± 3.80	kJ/mol	NIST Webbook
hfus	60.04	kJ/mol	Heat Capacity Measurements of 13 Methyl Esters of n-Carboxylic Acids from Methyloctanoate to Methyleicosanoate between 5 K and 350 K
hvap	96.80 ± 0.60	kJ/mol	NIST Webbook
hvap	96.40	kJ/mol	NIST Webbook
hvap	93.20	kJ/mol	NIST Webbook
log10ws	-5.80		Crippen Method
logp	5.641		Crippen Method
mcvol	257.830	ml/mol	McGowan Method
pc	1271.87	kPa	Joback Method
rinpol	1927.00		NIST Webbook

rinpol	1902.00	NIST Webbook
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ripol	2202.00		NIST Webbook
ripol	2205.00		NIST Webbook
ripol	2198.00		NIST Webbook
ripol	2191.00		NIST Webbook
ripol	2226.00		NIST Webbook
ss	495.09	J/molxK	NIST Webbook
tb	664.65	K	Joback Method



tc	760.00	K	Vapor-liquid critical point measurements of fifteen compounds by the pulse-heating method
tf	302.00 ± 2.00	K	NIST Webbook
tf	304.00 ± 1.00	K	NIST Webbook
tf	303.05 ± 0.35	K	NIST Webbook
tf	302.74 ± 0.10	K	NIST Webbook
vc	1.012	m3/kmol	Joback Method

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	732.28	J/molxK	664.65	Joback Method
cpg	750.62	J/molxK	692.59	Joback Method
cpg	768.17	J/molxK	720.52	Joback Method
cpg	784.95	J/molxK	748.46	Joback Method
cpg	800.97	J/molxK	776.39	Joback Method
cpg	816.25	J/molxK	804.33	Joback Method
cpg	830.80	J/molxK	832.26	Joback Method
cps	474.47	J/molxK	298.15	NIST Webbook
dvisc	0.0030378	Paxs	323.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0042122	Paxs	308.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0037551	Paxs	313.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0033682	Paxs	318.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0023360	Paxs	333.15	Group Contribution Model for Predicting Viscosity of Fatty Compounds
dvisc	0.0029310	Paxs	323.15	Group Contribution Model for Predicting Viscosity of Fatty Compounds

dvisc	0.0037640	Paxs	313.15	Group Contribution Model for Predicting Viscosity of Fatty Compounds
dvisc	0.0015499	Paxs	363.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0016659	Paxs	358.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0017960	Paxs	353.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0019421	Paxs	348.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0021073	Paxs	343.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0019460	Paxs	343.15	Group Contribution Model for Predicting Viscosity of Fatty Compounds
dvisc	0.0025083	Paxs	333.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0027540	Paxs	328.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
dvisc	0.0022947	Paxs	338.15	Densities and Viscosities of Fatty Acid Methyl and Ethyl Esters
hfust	68.16	kJ/mol	307.20	NIST Webbook
hfust	56.00	kJ/mol	305.20	NIST Webbook
hfust	14.97	kJ/mol	302.20	NIST Webbook
hsubt	152.00 ± 2.00	kJ/mol	296.00	NIST Webbook
hvapt	71.40	kJ/mol	448.50	NIST Webbook
hvapt	82.60	kJ/mol	411.50	NIST Webbook
hvapt	82.40	kJ/mol	477.00	NIST Webbook
hvapt	78.20	kJ/mol	498.00	NIST Webbook
hvapt	93.40	kJ/mol	350.00	NIST Webbook

hvapt	101.80	kJ/mol	298.00	A Comparison of Results by Correlation Gas Chromatography with Another Gas Chromatographic Retention Time Technique. The Effects of Retention Time Coincidence on Vaporization Enthalpy and Vapor Pressure
hvapt	96.20	kJ/mol	298.15	the vaporization enthalpies and vapor pressures of a series of unsaturated fatty acid methyl esters by correlation gas chromatography
hvapt	83.30 ± 0.40	kJ/mol	397.00	NIST Webbook
pvap	0.01	kPa	372.35	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	0.62	kPa	440.15	Measurement and correlation of the density, viscosity and vapor pressure of fatty acid 2-ethyhexyl esters
pvap	0.70	kPa	442.35	Measurement and correlation of the density, viscosity and vapor pressure of fatty acid 2-ethyhexyl esters

pvap	0.77	kPa	444.15	Measurement and correlation of the density, viscosity and vapor pressure of fatty acid 2-ethyhexyl esters
pvap	2.81e-05	kPa	308.12	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	4.57e-05	kPa	312.00	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	5.32e-05	kPa	312.96	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	4.82e-05	kPa	312.97	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	6.00e-05	kPa	314.42	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	6.90e-05	kPa	315.40	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics

pvap	7.59e-05	kPa	316.85	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	8.23e-05	kPa	317.81	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	8.76e-05	kPa	317.82	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.00e-04	kPa	319.27	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.12e-04	kPa	320.26	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.28e-04	kPa	321.71	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.43e-04	kPa	322.66	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics

pvap	1.44e-04	kPa	322.67	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.66e-04	kPa	324.12	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.85e-04	kPa	325.11	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	2.15e-04	kPa	326.56	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	2.38e-04	kPa	327.52	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	2.35e-04	kPa	327.52	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	2.68e-04	kPa	328.98	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics

pvap	2.97e-04	kPa	329.96	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	3.40e-04	kPa	331.42	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	3.76e-04	kPa	332.37	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	3.77e-04	kPa	332.37	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	4.29e-04	kPa	333.83	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	4.70e-04	kPa	334.83	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	5.48e-04	kPa	336.28	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics

pvap	6.04e-04	kPa	337.23	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	5.99e-04	kPa	337.23	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	6.83e-04	kPa	338.69	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	7.52e-04	kPa	339.69	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	8.56e-04	kPa	341.14	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	9.46e-04	kPa	342.09	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	9.34e-04	kPa	342.09	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics



pvap	1.07e-03	kPa	343.55	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.18e-03	kPa	344.55	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.23e-03	kPa	345.01	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.33e-03	kPa	346.00	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.46e-03	kPa	346.95	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.46e-03	kPa	346.95	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	1.66e-03	kPa	348.41	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics

pvap	0.58	kPa	438.45	Measurement and correlation of the density, viscosity and vapor pressure of fatty acid 2-ethyhexyl esters
pvap	1.89e-03	kPa	349.87	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	2.05e-03	kPa	350.86	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	2.26e-03	kPa	351.82	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	2.53e-03	kPa	353.27	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	2.77e-03	kPa	354.29	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	2.88e-03	kPa	354.73	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics

pvap	3.11e-03	kPa	355.73	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	3.41e-03	kPa	356.67	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	3.81e-03	kPa	358.13	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	4.17e-03	kPa	359.16	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	4.33e-03	kPa	359.59	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	4.29e-03	kPa	359.63	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	4.67e-03	kPa	360.59	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics

pvap	5.11e-03	kPa	361.55	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	5.65e-03	kPa	363.00	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	6.17e-03	kPa	364.02	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	6.38e-03	kPa	364.45	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	6.32e-03	kPa	364.49	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	6.84e-03	kPa	365.45	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	7.47e-03	kPa	366.41	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics

pvap	8.23e-03	kPa	367.87	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	8.93e-03	kPa	368.87	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	9.21e-03	kPa	369.32	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	0.01	kPa	371.29	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	0.01	kPa	371.74	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	0.01	kPa	372.64	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	0.01	kPa	372.73	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics

pvap	4.00	kPa	486.57	Vapor liquid equilibrium of fatty acid ethyl esters determined using DSC
pvap	0.13	kPa	407.12	Measurements and Correlations of the Density, Viscosity, and Vapor Pressure for Methyl Ricinoleate
pvap	0.21	kPa	414.26	Measurements and Correlations of the Density, Viscosity, and Vapor Pressure for Methyl Ricinoleate
pvap	0.24	kPa	418.18	Measurements and Correlations of the Density, Viscosity, and Vapor Pressure for Methyl Ricinoleate
pvap	0.27	kPa	422.34	Measurements and Correlations of the Density, Viscosity, and Vapor Pressure for Methyl Ricinoleate
pvap	0.30	kPa	424.68	Measurements and Correlations of the Density, Viscosity, and Vapor Pressure for Methyl Ricinoleate
pvap	0.36	kPa	427.54	Measurements and Correlations of the Density, Viscosity, and Vapor Pressure for Methyl Ricinoleate
pvap	0.41	kPa	429.32	Measurements and Correlations of the Density, Viscosity, and Vapor Pressure for Methyl Ricinoleate
pvap	0.42	kPa	432.32	Measurements and Correlations of the Density, Viscosity, and Vapor Pressure for Methyl Ricinoleate

pvap	0.52	kPa	434.18	Measurements and Correlations of the Density, Viscosity, and Vapor Pressure for Methyl Ricinoleate
pvap	0.55	kPa	437.30	Measurements and Correlations of the Density, Viscosity, and Vapor Pressure for Methyl Ricinoleate
pvap	0.56	kPa	438.44	Measurements and Correlations of the Density, Viscosity, and Vapor Pressure for Methyl Ricinoleate
pvap	0.65	kPa	439.60	Measurements and Correlations of the Density, Viscosity, and Vapor Pressure for Methyl Ricinoleate
pvap	0.66	kPa	441.00	Measurements and Correlations of the Density, Viscosity, and Vapor Pressure for Methyl Ricinoleate
pvap	0.84	kPa	445.36	Measurements and Correlations of the Density, Viscosity, and Vapor Pressure for Methyl Ricinoleate
pvap	0.85	kPa	447.06	Measurements and Correlations of the Density, Viscosity, and Vapor Pressure for Methyl Ricinoleate
pvap	0.02	kPa	373.15	Isothermal Vapor Pressures of Three Binary Systems: n-Tetradecane + Methyl Dodecanoate, Methyl Tetradecanoate, or Methyl Hexadecanoate between 353.15 and 453.15 K

pvap	0.03	kPa	383.15	Isothermal Vapor Pressures of Three Binary Systems: n-Tetradecane + Methyl Dodecanoate, Methyl Tetradecanoate, or Methyl Hexadecanoate between 353.15 and 453.15 K
pvap	0.05	kPa	393.15	Isothermal Vapor Pressures of Three Binary Systems: n-Tetradecane + Methyl Dodecanoate, Methyl Tetradecanoate, or Methyl Hexadecanoate between 353.15 and 453.15 K
pvap	0.10	kPa	403.15	Isothermal Vapor Pressures of Three Binary Systems: n-Tetradecane + Methyl Dodecanoate, Methyl Tetradecanoate, or Methyl Hexadecanoate between 353.15 and 453.15 K
pvap	0.16	kPa	413.15	Isothermal Vapor Pressures of Three Binary Systems: n-Tetradecane + Methyl Dodecanoate, Methyl Tetradecanoate, or Methyl Hexadecanoate between 353.15 and 453.15 K
pvap	0.28	kPa	423.15	Isothermal Vapor Pressures of Three Binary Systems: n-Tetradecane + Methyl Dodecanoate, Methyl Tetradecanoate, or Methyl Hexadecanoate between 353.15 and 453.15 K



pvap	0.46	kPa	433.15	Isothermal Vapor Pressures of Three Binary Systems: n-Tetradecane + Methyl Dodecanoate, Methyl Tetradecanoate, or Methyl Hexadecanoate between 353.15 and 453.15 K
pvap	0.76	kPa	443.15	Isothermal Vapor Pressures of Three Binary Systems: n-Tetradecane + Methyl Dodecanoate, Methyl Tetradecanoate, or Methyl Hexadecanoate between 353.15 and 453.15 K
pvap	0.53	kPa	436.25	Measurement and correlation of the density, viscosity and vapor pressure of fatty acid 2-ethyhexyl esters
pvap	0.10	kPa	408.30	Isobaric Vapor Liquid Equilibrium of the Mixture of Methyl Palmitate and Methyl Stearate at 0.1 kPa, 1 kPa, 5 kPa, and 10 kPa
pvap	1.00	kPa	450.90	Isobaric Vapor Liquid Equilibrium of the Mixture of Methyl Palmitate and Methyl Stearate at 0.1 kPa, 1 kPa, 5 kPa, and 10 kPa
pvap	5.00	kPa	490.80	Isobaric Vapor Liquid Equilibrium of the Mixture of Methyl Palmitate and Methyl Stearate at 0.1 kPa, 1 kPa, 5 kPa, and 10 kPa

pvap	10.00	kPa	511.25	Isobaric Vapor Liquid Equilibrium of the Mixture of Methyl Palmitate and Methyl Stearate at 0.1 kPa, 1 kPa, 5 kPa, and 10 kPa
pvap	0.45	kPa	433.35	Measurement and correlation of the density, viscosity and vapor pressure of fatty acid 2-ethyhexyl esters
pvap	0.42	kPa	432.25	Measurement and correlation of the density, viscosity and vapor pressure of fatty acid 2-ethyhexyl esters
pvap	0.40	kPa	430.75	Measurement and correlation of the density, viscosity and vapor pressure of fatty acid 2-ethyhexyl esters
pvap	0.35	kPa	428.35	Measurement and correlation of the density, viscosity and vapor pressure of fatty acid 2-ethyhexyl esters
pvap	0.31	kPa	425.25	Measurement and correlation of the density, viscosity and vapor pressure of fatty acid 2-ethyhexyl esters
pvap	0.28	kPa	423.15	Measurement and correlation of the density, viscosity and vapor pressure of fatty acid 2-ethyhexyl esters

pvap	0.21	kPa	419.15	Measurement and correlation of the density, viscosity and vapor pressure of fatty acid 2-ethyhexyl esters
pvap	1.20	kPa	452.65	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
pvap	0.73	kPa	442.67	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	0.45	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	0.27	kPa	422.44	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	0.16	kPa	412.54	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	0.09	kPa	402.41	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	0.05	kPa	392.48	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	1.21	kPa	453.15	Isothermal Vapor Pressures of Three Binary Systems: n-Tetradecane + Methyl Dodecanoate, Methyl Tetradecanoate, or Methyl Hexadecanoate between 353.15 and 453.15 K
pvap	1.82e-03	kPa	349.41	Fatty acids methyl esters: Complementary measurements and comprehensive analysis of vaporization thermodynamics
pvap	0.03	kPa	382.55	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

speedsl	1250.00	m/s	333.15	Density and Speed of Sound Measurements on Five Fatty Acid Methyl Esters at 83 kPa and Temperatures from (278.15 to 338.15) K
speedsl	1268.00	m/s	328.15	Density and Speed of Sound Measurements on Five Fatty Acid Methyl Esters at 83 kPa and Temperatures from (278.15 to 338.15) K
speedsl	1285.00	m/s	323.15	Density and Speed of Sound Measurements on Five Fatty Acid Methyl Esters at 83 kPa and Temperatures from (278.15 to 338.15) K
speedsl	1303.00	m/s	318.15	Density and Speed of Sound Measurements on Five Fatty Acid Methyl Esters at 83 kPa and Temperatures from (278.15 to 338.15) K
speedsl	1320.00	m/s	313.15	Density and Speed of Sound Measurements on Five Fatty Acid Methyl Esters at 83 kPa and Temperatures from (278.15 to 338.15) K
speedsl	1338.00	m/s	308.15	Density and Speed of Sound Measurements on Five Fatty Acid Methyl Esters at 83 kPa and Temperatures from (278.15 to 338.15) K

speedsl	1233.00	m/s	338.15	Density and Speed of Sound Measurements on Five Fatty Acid Methyl Esters at 83 kPa and Temperatures from (278.15 to 338.15) K
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Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	436.70	K	0.50	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.50314e+01
Coeff. B	-5.16468e+03
Coeff. C	-1.09270e+02
Temperature range (K), min.	459.57
Temperature range (K), max.	640.62

Datasets

Speed of sound, m/s

Pressure, kPa - Liquid	Temperature, K - Liquid	Speed of sound, m/s - Liquid
100.00	313.15	1317.2
10000.00	313.15	1365.4
20000.00	313.15	1411.5
30000.00	313.15	1454.4

40000.00	313.15	1494.8
100.00	323.15	1283.4
10000.00	323.15	1333.7
20000.00	323.15	1381.1
30000.00	323.15	1425.2
40000.00	323.15	1467.4
50000.00	323.15	1506.9
100.00	343.15	1215.3
10000.00	343.15	1270.1
20000.00	343.15	1319.7
30000.00	343.15	1366.8
40000.00	343.15	1410.5
50000.00	343.15	1450.6
100.00	363.15	1150.1
10000.00	363.15	1208.9
20000.00	363.15	1262.5
30000.00	363.15	1311.1
40000.00	363.15	1355.7
50000.00	363.15	1400.9
100.00	383.15	1087.2
10000.00	383.15	1150.3
20000.00	383.15	1207.5
30000.00	383.15	1259.3
40000.00	383.15	1310.8
50000.00	383.15	1358.3
100.00	393.15	1056.9
10000.00	393.15	1121.2
20000.00	393.15	1180.4
30000.00	393.15	1234.2
40000.00	393.15	1284.7
50000.00	393.15	1334.0

Reference

<https://www.doi.org/10.1021/je400122k>

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Speed of Sound, Density, and  
Derivative Properties of Ethyl Myristate,  
Methyl Myristate, and Methyl Palmitate  
in the Liquid Phase for methanol +  
glycerol fatty acid methyl ester  
(methyl laurate, methyl myristate,  
methyl palmitate) systems at elevated  
pressures and temperatures  
Equilibrium of Biodiesel Compounds  
for Systems Consisting of a Methyl  
Ester + Glycerin + Water  
Complementary measurements and  
comprehensive analysis of  
vaporization thermodynamics:

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<https://www.doi.org/10.1016/j.fluid.2016.05.007>  
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<http://link.springer.com/article/10.1007/BF02311772>

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Phase behaviour of high molecular mass methyl esters in supercritical carbon dioxide

Solid-Liquid Equilibria and Characterization of the Reaction of Methyl and Ethyl Esters of Palmitic and Stearic Acids with Carboxylic Acids: Thermodynamic Properties: Experimental Data and Prediction of the Yaws Handbook of Vapor Pressure: Vapor-liquid critical point measurements of fifteen compounds using the Contribution Model for Predicting Viscosity of Fatty Compounds:

Tar removal from biosyngas in the biomass gasification process. (Liquid + Vapor) and Solid + Vapor solvent Measurements on Ethyl Fatty Acid Methyl Esters in Equilibrium Vapor Pressure of a mixture of 2-ethylhexyl fatty acid methyl esters in correlation with chromatography: Methyl Palmitate and Methyl Stearate at 0.1 kPa, 1 kPa, 5 kPa, and 10 kPa :

## Legend

chl:	Standard liquid enthalpy of combustion
chs:	Standard solid enthalpy of combustion
cpg:	Ideal gas heat capacity
cps:	Solid phase heat capacity
dvisc:	Dynamic viscosity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfl:	Liquid phase enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hfust:	Enthalpy of fusion at a given temperature
hsubt:	Enthalpy of sublimation at a given temperature
hvap:	Enthalpy of vaporization at standard conditions
hvapt:	Enthalpy of vaporization at a given temperature

<b>log10ws:</b>	Log10 of Water solubility in mol/l
<b>logp:</b>	Octanol/Water partition coefficient
<b>mcvol:</b>	McGowan's characteristic volume
<b>pc:</b>	Critical Pressure
<b>pvap:</b>	Vapor pressure
<b>rinpol:</b>	Non-polar retention indices
<b>ripol:</b>	Polar retention indices
<b>speedsl:</b>	Speed of sound in fluid
<b>ss:</b>	Solid phase molar entropy at standard conditions
<b>tb:</b>	Normal Boiling Point Temperature
<b>tbrp:</b>	Boiling point at reduced pressure
<b>tc:</b>	Critical Temperature
<b>tf:</b>	Normal melting (fusion) point
<b>vc:</b>	Critical Volume

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