

mercury

Other names:	mercury element quecksilber quicksilver
Inchi:	InChI=1S/Hg
InchiKey:	QSHDDOUJBYECFT-UHFFFAOYSA-N
Formula:	Hg
SMILES:	[Hg]
Mol. weight [g/mol]:	200.59
CAS:	7439-97-6

Physical Properties

Property code	Value	Unit	Source
af	-0.1670		KDB
gf	31.86	kJ/mol	KDB
hf	61.38 ± 0.04	kJ/mol	NIST Webbook
hf	61.34	kJ/mol	KDB
ie	10.44 ± 0.01	eV	NIST Webbook
ie	10.49 ± 0.01	eV	NIST Webbook
ie	10.44	eV	NIST Webbook
ie	14.84 ± 0.00	eV	NIST Webbook
ie	10.47 ± 0.05	eV	NIST Webbook
ie	10.43 ± 0.08	eV	NIST Webbook
ie	10.44	eV	NIST Webbook
ie	10.44	eV	NIST Webbook
ie	10.40	eV	NIST Webbook
pc	172000.00	kPa	KDB
sgb	174.97 ± 0.01	J/mol×K	NIST Webbook
sl	75.90 ± 0.12	J/mol×K	NIST Webbook
tb	629.88	K	KDB
tb	629.70 ± 0.50	K	NIST Webbook
tb	629.81 ± 0.01	K	NIST Webbook
tc	0.00	K	NIST Webbook
tc	1750.00	K	KDB
tf	234.31 ± 0.01	K	NIST Webbook
tf	234.32	K	KDB
tf	234.50 ± 0.20	K	NIST Webbook
tf	234.30 ± 0.01	K	NIST Webbook

tf	234.29	K	Determination of melting temperatures in hydrocarbon mixtures by differential scanning calorimetry
tt	234.31	K	KDB
tt	234.30 ± 0.00	K	NIST Webbook
tt	234.29 ± 0.20	K	NIST Webbook
vc	0.043	m3/kmol	KDB
zc	0.5083020		KDB

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
rhoI	13594.00	kg/m3	293.00	KDB
tcondI	8.05	W/m×K	295.60	A Novel Instrument for the Measurement of the Thermal Conductivity of Molten Metals. Part II: Measurements
tcondI	8.50	W/m×K	312.20	A Novel Instrument for the Measurement of the Thermal Conductivity of Molten Metals. Part II: Measurements
tcondI	8.80	W/m×K	319.50	A Novel Instrument for the Measurement of the Thermal Conductivity of Molten Metals. Part II: Measurements
tcondI	9.05	W/m×K	332.00	A Novel Instrument for the Measurement of the Thermal Conductivity of Molten Metals. Part II: Measurements

tcondl	9.50	W/m×K	352.00	A Novel Instrument for the Measurement of the Thermal Conductivity of Molten Metals. Part II: Measurements
tcondl	9.90	W/m×K	370.70	A Novel Instrument for the Measurement of the Thermal Conductivity of Molten Metals. Part II: Measurements
tcondl	10.20	W/m×K	390.00	A Novel Instrument for the Measurement of the Thermal Conductivity of Molten Metals. Part II: Measurements
tcondl	10.80	W/m×K	407.70	A Novel Instrument for the Measurement of the Thermal Conductivity of Molten Metals. Part II: Measurements
tcondl	11.20	W/m×K	425.90	A Novel Instrument for the Measurement of the Thermal Conductivity of Molten Metals. Part II: Measurements
tcondl	12.40	W/m×K	476.60	A Novel Instrument for the Measurement of the Thermal Conductivity of Molten Metals. Part II: Measurements
tcondl	13.00	W/m×K	515.20	A Novel Instrument for the Measurement of the Thermal Conductivity of Molten Metals. Part II: Measurements

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.61630e+01
Coeff. B	-7.24765e+03
Coeff. C	-2.05000e+00
Temperature range (K), min.	234.31
Temperature range (K), max.	1735.00

Sources

NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C7439976&Units=SI
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
A Novel Instrument for the Measurement of the Thermal Conductivity of Liquids Part II: Comparison of methanol, water, ethylene glycol and propylene glycol at temperatures up to 400 °C and pressures up to 10 MPa	https://www.doi.org/10.1007/s10765-006-0057-y
Measurement of the thermal conductivity of liquids by differential acoustic phase shift method	https://www.doi.org/10.1016/j.fluid.2018.08.014
Measurement of the thermal conductivity of liquids by differential acoustic phase shift method	https://www.doi.org/10.1016/j.jct.2016.12.030
Measurement of the thermal conductivity of liquids by differential acoustic phase shift method	https://www.doi.org/10.1016/j.tca.2009.02.020
Measurement of the thermal conductivity of liquids by differential acoustic phase shift method	https://www.doi.org/10.1021/acs.jced.6b00173
Measurement of the thermal conductivity of liquids by differential acoustic phase shift method	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=1954

Legend

af:	Acentric Factor
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
ie:	Ionization energy
pc:	Critical Pressure
pvap:	Vapor pressure
rho:	Liquid Density
sgb:	Molar entropy at standard conditions (1 bar)
sl:	Liquid phase molar entropy at standard conditions
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tcondl:	Liquid thermal conductivity

tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume
zc:	Critical Compressibility

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