

Pyridine, 3-methyl-

Other names:	.beta.-picoline 3-Methylpyridine 3-PICOLINE 5-Methylpyridine BETA-PICOLINE NSC 18251 m-Methylpyridine m-Picoline meta-Methylpyridine «beta»-Methylpyridine «beta»-Picoline Â«betaÂ»-Methylpyridine Â«betaÂ»-Picoline
Inchi:	InChI=1S/C6H7N/c1-6-3-2-4-7-5-6/h2-5H,1H3
InchiKey:	ITQTTZVARXURQS-UHFFFAOYSA-N
Formula:	C6H7N
SMILES:	Cc1cccnc1
Mol. weight [g/mol]:	93.13
CAS:	108-99-6

Physical Properties

Property code	Value	Unit	Source
af	0.3060		KDB
affp	943.40	kJ/mol	NIST Webbook
basg	911.60	kJ/mol	NIST Webbook
chl	-3429.80 ± 1.00	kJ/mol	NIST Webbook
chl	-3402.00	kJ/mol	NIST Webbook
chl	-3423.20 ± 0.50	kJ/mol	NIST Webbook
chl	-3300.40 ± 1.30	kJ/mol	NIST Webbook
dm	2.40	debye	KDB
gf	184.40	kJ/mol	KDB
hf	113.60 ± 1.00	kJ/mol	NIST Webbook
hf	106.10 ± 0.71	kJ/mol	NIST Webbook
hf	106.20	kJ/mol	KDB
hf	113.60 ± 1.00	kJ/mol	NIST Webbook
hf	75.50	kJ/mol	NIST Webbook
hf	103.60 ± 1.30	kJ/mol	NIST Webbook

hfl	33.00	kJ/mol	NIST Webbook
hfl	68.30 ± 1.00	kJ/mol	NIST Webbook
hfl	61.10 ± 1.30	kJ/mol	NIST Webbook
hfl	61.71 ± 0.59	kJ/mol	NIST Webbook
hvap	45.30	kJ/mol	NIST Webbook
hvap	42.50 ± 0.30	kJ/mol	NIST Webbook
hvap	44.57	kJ/mol	NIST Webbook
hvap	44.64	kJ/mol	NIST Webbook
hvap	44.60 ± 0.10	kJ/mol	NIST Webbook
hvap	44.43	kJ/mol	NIST Webbook
hvap	42.50	kJ/mol	NIST Webbook
hvap	44.50 ± 2.00	kJ/mol	NIST Webbook
hvap	44.40	kJ/mol	NIST Webbook
hvap	45.23	kJ/mol	NIST Webbook
ie	9.31	eV	NIST Webbook
ie	8.90	eV	NIST Webbook
ie	9.43 ± 0.05	eV	NIST Webbook
ie	9.40 ± 0.10	eV	NIST Webbook
ie	9.29	eV	NIST Webbook
ie	9.00	eV	NIST Webbook
ie	9.30	eV	NIST Webbook
ie	9.04 ± 0.03	eV	NIST Webbook
log10ws	-1.71		Crippen Method
logp	1.390		Crippen Method
mccvol	81.620	ml/mol	McGowan Method
pc	4480.00	kPa	KDB
rinpol	866.40		NIST Webbook
rinpol	872.00		NIST Webbook
rinpol	834.00		NIST Webbook
rinpol	871.00		NIST Webbook
rinpol	832.00		NIST Webbook
rinpol	832.00		NIST Webbook
rinpol	133.54		NIST Webbook
rinpol	133.54		NIST Webbook
rinpol	832.00		NIST Webbook
rinpol	841.00		NIST Webbook
rinpol	850.00		NIST Webbook
rinpol	845.00		NIST Webbook
rinpol	864.00		NIST Webbook
rinpol	864.00		NIST Webbook
rinpol	835.00		NIST Webbook
rinpol	874.00		NIST Webbook
rinpol	863.00		NIST Webbook
rinpol	841.00		NIST Webbook

rinpol	859.00	NIST Webbook
rinpol	868.00	NIST Webbook
rinpol	857.00	NIST Webbook
rinpol	861.00	NIST Webbook
rinpol	850.00	NIST Webbook
rinpol	850.00	NIST Webbook
rinpol	868.00	NIST Webbook
rinpol	852.00	NIST Webbook
rinpol	831.00	NIST Webbook
rinpol	860.00	NIST Webbook
rinpol	838.00	NIST Webbook
rinpol	869.00	NIST Webbook
rinpol	849.00	NIST Webbook
rinpol	849.00	NIST Webbook
rinpol	871.00	NIST Webbook
rinpol	863.00	NIST Webbook
rinpol	856.00	NIST Webbook
rinpol	826.80	NIST Webbook
rinpol	841.00	NIST Webbook
rinpol	859.00	NIST Webbook
rinpol	845.00	NIST Webbook
rinpol	852.00	NIST Webbook
rinpol	857.00	NIST Webbook
rinpol	846.00	NIST Webbook
rinpol	843.40	NIST Webbook
rinpol	877.00	NIST Webbook
rinpol	852.00	NIST Webbook
rinpol	844.90	NIST Webbook
rinpol	874.00	NIST Webbook
rinpol	850.00	NIST Webbook
ripol	1301.00	NIST Webbook
ripol	1319.00	NIST Webbook
ripol	1305.00	NIST Webbook
ripol	1305.00	NIST Webbook
ripol	1311.00	NIST Webbook
ripol	1283.00	NIST Webbook
ripol	1285.00	NIST Webbook
ripol	1286.00	NIST Webbook
ripol	1287.00	NIST Webbook
ripol	1287.00	NIST Webbook
ripol	1287.00	NIST Webbook
ripol	1288.00	NIST Webbook
ripol	1288.00	NIST Webbook
ripol	1310.00	NIST Webbook

ripol	1289.00		NIST Webbook
ripol	1288.00		NIST Webbook
ripol	1291.00		NIST Webbook
ripol	1264.00		NIST Webbook
ripol	1292.00		NIST Webbook
ripol	1289.00		NIST Webbook
ripol	1292.00		NIST Webbook
ripol	1323.00		NIST Webbook
ripol	1338.00		NIST Webbook
ripol	1305.00		NIST Webbook
ripol	1306.00		NIST Webbook
ripol	1284.00		NIST Webbook
ripol	1284.00		NIST Webbook
ripol	1304.00		NIST Webbook
ripol	1304.00		NIST Webbook
ripol	1303.00		NIST Webbook
ripol	1290.00		NIST Webbook
ripol	1291.00		NIST Webbook
ripol	1319.00		NIST Webbook
ripol	1292.00		NIST Webbook
ripol	1290.00		NIST Webbook
ripol	1290.00		NIST Webbook
ripol	1347.00		NIST Webbook
ripol	1289.00		NIST Webbook
ripol	1302.00		NIST Webbook
ripol	1297.00		NIST Webbook
ripol	1284.00		NIST Webbook
ripol	1303.00		NIST Webbook
ripol	1310.00		NIST Webbook
ripol	1289.00		NIST Webbook
ripol	1298.00		NIST Webbook
sl	216.31	J/mol×K	NIST Webbook
tb	417.29	K	KDB
tc	644.85 ± 0.50	K	NIST Webbook
tc	645.00	K	KDB
tc	645.00	K	NIST Webbook
tf	251.95 ± 0.70	K	NIST Webbook
tf	255.25 ± 0.20	K	NIST Webbook
tf	254.63 ± 0.35	K	NIST Webbook
tf	254.95 ± 0.06	K	NIST Webbook
tf	254.85 ± 0.30	K	NIST Webbook
tf	255.45 ± 0.30	K	NIST Webbook
tf	255.01	K	KDB
tf	255.15 ± 1.00	K	NIST Webbook

tf	254.85 ± 0.50	K	NIST Webbook
tt	255.01 ± 0.06	K	NIST Webbook
tt	255.01	K	KDB
vc	0.288	m ³ /kmol	KDB
zc	0.2405880		KDB

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpl	158.69	J/mol×K	298.15	NIST Webbook
cpl	158.75	J/mol×K	298.15	Excess heat capacities of 1-methyl pyrrolidin-2-one and pyridine orpicolines mixtures
cpl	156.05	J/mol×K	293.15	Excess heat capacities of 1-methyl pyrrolidin-2-one and pyridine orpicolines mixtures
cpl	160.83	J/mol×K	303.15	Excess heat capacities of 1-methyl pyrrolidin-2-one and pyridine orpicolines mixtures
dvisc	0.0005390	Pa×s	343.15	Densities and Viscosities of Niacin + 3-Picoline + Water Mixtures from (293.15 to 343.15) K
dvisc	0.0009459	Pa×s	293.15	Density and viscosity of (3-picoline + water) binary mixtures from T = (293.15 to 343.15) K
dvisc	0.0008318	Pa×s	303.15	Density and viscosity of (3-picoline + water) binary mixtures from T = (293.15 to 343.15) K

dvisc	0.0007352	Pa×s	313.15	Density and viscosity of (3-picoline + water) binary mixtures from T = (293.15 to 343.15) K	
dvisc	0.0005936	Pa×s	333.15	Density and viscosity of (3-picoline + water) binary mixtures from T = (293.15 to 343.15) K	
dvisc	0.0005390	Pa×s	343.15	Density and viscosity of (3-picoline + water) binary mixtures from T = (293.15 to 343.15) K	
dvisc	0.0006565	Pa×s	323.15	Density and viscosity of (3-picoline + water) binary mixtures from T = (293.15 to 343.15) K	
dvisc	0.0009459	Pa×s	293.15	Densities and Viscosities of Niacin + 3-Picoline + Water Mixtures from (293.15 to 343.15) K	
dvisc	0.0008318	Pa×s	303.15	Densities and Viscosities of Niacin + 3-Picoline + Water Mixtures from (293.15 to 343.15) K	
dvisc	0.0007352	Pa×s	313.15	Densities and Viscosities of Niacin + 3-Picoline + Water Mixtures from (293.15 to 343.15) K	
dvisc	0.0006565	Pa×s	323.15	Densities and Viscosities of Niacin + 3-Picoline + Water Mixtures from (293.15 to 343.15) K	
dvisc	0.0005936	Pa×s	333.15	Densities and Viscosities of Niacin + 3-Picoline + Water Mixtures from (293.15 to 343.15) K	

hfust	14.18	kJ/mol	255.00	NIST Webbook
hfust	14.18	kJ/mol	255.01	NIST Webbook
hfust	14.18	kJ/mol	255.00	NIST Webbook
hsubt	62.20	kJ/mol	240.00	NIST Webbook
hvapt	38.60 ± 0.10	kJ/mol	385.50	NIST Webbook
hvapt	37.40 ± 0.10	kJ/mol	417.00	NIST Webbook
hvapt	38.90 ± 0.10	kJ/mol	393.00	NIST Webbook
hvapt	40.20 ± 0.10	kJ/mol	372.00	NIST Webbook
hvapt	40.40 ± 0.10	kJ/mol	368.00	NIST Webbook
hvapt	42.00 ± 0.10	kJ/mol	343.00	NIST Webbook
hvapt	42.70 ± 0.10	kJ/mol	328.00	NIST Webbook
hvapt	43.60 ± 0.10	kJ/mol	313.00	NIST Webbook
hvapt	41.30	kJ/mol	402.50	NIST Webbook
hvapt	41.30	kJ/mol	402.50	NIST Webbook
hvapt	41.00	kJ/mol	386.00	NIST Webbook
hvapt	36.80	kJ/mol	603.00	NIST Webbook
hvapt	37.70	kJ/mol	510.00	NIST Webbook
hvapt	40.10	kJ/mol	416.00	NIST Webbook
hvapt	40.90 ± 0.10	kJ/mol	385.50	NIST Webbook
hvapt	43.20 ± 0.10	kJ/mol	385.50	NIST Webbook
hvapt	36.10 ± 0.20	kJ/mol	385.50	NIST Webbook
hvapt	37.35	kJ/mol	417.30	NIST Webbook
rhoI	952.00	kg/m3	298.15	Thermodynamic Properties of Ternary Mixtures Containing Ionic Liquid and Organic Liquids: Excess Molar Volume and Excess Isentropic Compressibility
rhoI	961.00	kg/m3	288.00	KDB
rhoI	952.00	kg/m3	298.15	Thermodynamic studies of molecular interactions in mixtures of o-toulidine with pyridine and picolines: Excess molar volumes, excess molar enthalpies, and excess isentropic compressibilities

rhoI	952.00	kg/m3	298.15	Thermodynamic and topological investigations of ternary mixtures with o-toluidine, tetrahydropyran, and picolines: Excess molar volume and excess isentropic compressibility
rhoI	952.61	kg/m3	298.15	Determination of Infinite Dilution Partial Molar Excess Enthalpies and Volumes for Some Ionic Liquid Precursors in Water and Methanol Using Tandem Flow Mixing Calorimetry and Vibrating-Tube Densimetry
rhoI	956.58	kg/m3	293.15	Thermodynamic Properties of Ternary Mixtures Containing Ionic Liquid and Organic Liquids: Excess Molar Volume and Excess Isentropic Compressibility
rhoI	942.83	kg/m3	308.15	Thermodynamic Properties of Ternary Mixtures Containing Ionic Liquid and Organic Liquids: Excess Molar Volume and Excess Isentropic Compressibility
rhoI	947.45	kg/m3	303.15	Thermodynamic Properties of Ternary Mixtures Containing Ionic Liquid and Organic Liquids: Excess Molar Volume and Excess Isentropic Compressibility
sfust	55.61	J/mol×K	255.01	NIST Webbook

speedsl	1384.03	m/s	308.15	Thermodynamic properties of binary mixtures of tetrahydropyran with pyridine and isomeric picolines: Excess molar volumes, excess molar enthalpies and excess isentropic compressibilities
speedsl	1424.01	m/s	298.15	Topological investigations of binary mixtures containing ionic liquid 1-ethyl-3-methylimidazolium tetrafluoroborate and pyridine or isomeric picolines
speedsl	1404.05	m/s	303.15	Topological investigations of binary mixtures containing ionic liquid 1-ethyl-3-methylimidazolium tetrafluoroborate and pyridine or isomeric picolines
speedsl	1384.03	m/s	308.15	Topological investigations of binary mixtures containing ionic liquid 1-ethyl-3-methylimidazolium tetrafluoroborate and pyridine or isomeric picolines
speedsl	1424.01	m/s	298.15	Thermodynamic properties of binary mixtures of tetrahydropyran with pyridine and isomeric picolines: Excess molar volumes, excess molar enthalpies and excess isentropic compressibilities

speedsl	1404.05	m/s	303.15	Thermodynamic properties of binary mixtures of tetrahydropyran with pyridine and isomeric picolines: Excess molar volumes, excess molar enthalpies and excess isentropic compressibilities
speedsl	1445.91	m/s	293.15	Topological investigations of binary mixtures containing ionic liquid 1-ethyl-3-methylimidazolium tetrafluoroborate and pyridine or isomeric picolines

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.43698e+01
Coeff. B	-3.51056e+03
Coeff. C	-5.69960e+01
Temperature range (K), min.	306.29
Temperature range (K), max.	444.55

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/T + C*\ln(T) + D*T^2$
Coeff. A	7.64539e+01
Coeff. B	-7.79454e+03
Coeff. C	-8.93688e+00
Coeff. D	4.40804e-06
Temperature range (K), min.	255.01
Temperature range (K), max.	645.00

Sources

Density and viscosity of (3-picoline + water) binary mixtures from T = (293.15 to 340.15) K: Handbook of Vapor Pressure:

Thermodynamic studies of molecular interactions in mixtures of o-toulidine with pyridine and pyridine excess mixtures containing ionic liquid and determination of viscosity and density and the process enthalpy of solution and the compressibility coefficients in some binary systems:

Ionic Liquids + Molecular Solvents: Densities and Viscosities of Niacin + 3-Picoline + Water Mixtures from (293.15 to 343.15) K: Principles of ternary mixtures

McGowan Method: 3-methylimidazolium tetrafluoroborate and organic solvents: Solubility of Niacin in 3-Picoline + Water from (287.65 to 359.15) K: Crippen Method:

Determination of Infinite Dilution Partial Molar Excess Enthalpies and Volumes for Some Organic Compounds in

KDB Pure Data: The NIST Chemistry WebBook (NIST Chemistry Database) Using Tandem FT-IR/MS/MS and Topological investigations of ternary mixtures with 6-tetramethyltetrahydropyran: ternary mixtures containing o-toulidine and water: Determination of compressibility coefficients of binary mixtures of isomeric picolines or benzene or toluene at 308.15 K:

Thermodynamic properties of binary mixtures of tetrahydropyran with pyridine and isomeric picolines: Excess molar enthalpies and excess molar volumes of binary mixtures containing ionic liquid methyl 3-methylimidazolium tetrafluoroborate and pyridine or isomeric picolines: Heat capacities of 1-methylpyrrolidin-2-one and pyridine + 3-picolines mixtures:

<https://www.doi.org/10.1016/j.jct.2004.11.009>

<https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure>

<https://www.doi.org/10.1016/j.jct.2010.12.028>

<https://www.doi.org/10.1021/je4004965>

<https://www.doi.org/10.1021/je0504515>

<https://www.thermo.com/research/kdb/hcprop/showprop.php?cmpid=1347>

<https://www.doi.org/10.1021/je0496995>

<https://www.doi.org/10.1016/j.tca.2013.07.006>

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

<https://www.doi.org/10.1021/je034165+>

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

<https://www.doi.org/10.1021/je200093f>

<https://www.thermo.com/research/kdb/hcprop/showprop.php?cmpid=1347>

<https://www.doi.org/10.1016/j.jct.2011.10.002>

<https://www.doi.org/10.1016/j.tca.2011.12.023>

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

<https://www.doi.org/10.1016/j.tca.2011.02.002>

<https://www.doi.org/10.1016/j.fluid.2015.05.003>

<https://www.doi.org/10.1016/j.jct.2012.07.007>

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C108996&Units=SI>

<https://www.doi.org/10.1016/j.tca.2013.06.033>

<https://www.thermo.com/files/research/kdb/mol/mol1347.mol>

Legend

af:	Acentric Factor
affp:	Proton affinity
basg:	Gas basicity
chl:	Standard liquid enthalpy of combustion
cpl:	Liquid phase heat capacity
dm:	Dipole Moment
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
hfust:	Enthalpy of fusion at a given temperature
hsbt:	Enthalpy of sublimation at a given temperature

hvap:	Enthalpy of vaporization at standard conditions
hvapt:	Enthalpy of vaporization at a given temperature
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
rho:	Liquid Density
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
sfust:	Entropy of fusion at a given temperature
sl:	Liquid phase molar entropy at standard conditions
speedsl:	Speed of sound in fluid
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume
zc:	Critical Compressibility

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