Benzenemethanamine, N,N-dimethyl-

Other names:	Araldite accelerator 062
	BDMA
	Benzenemethamine, N,N-dimethyl-
	Benzyl-N,N-dimethylamine
	Benzylamine, N,N-dimethyl-
	Benzyldimethylamine
	Dabco BDMA
	Dimethylbenzylamine
	N,N-Dimethyl-N-benzylamine
	N,N-Dimethylbenzenemethanamine
	N,N-Dimethylbenzylamine
	N-(Phenylmethyl)dimethylamine
	N-Benzyl-N,N-dimethylamine
	N-Benzyldimethylamine
	NSC 5342
	Sumine 2015
	UN 2619
Inchi:	InChI=1S/C9H13N/c1-10(2)8-9-6-4-3-5-7-9/h3-7H,8H2,1-2H3
InchiKey:	XXBDWLFCJWSEKW-UHFFFAOYSA-N
Formula:	C9H13N
SMILES:	CN(C)Cc1ccccc1
Mol. weight [g/mol]:	135.21
CAS:	103-83-3

Physical Properties

Property code	Value	Unit	Source
affp	968.40	kJ/mol	NIST Webbook
basg	937.40	kJ/mol	NIST Webbook
gf	248.09	kJ/mol	Joback Method
hf	74.97	kJ/mol	Joback Method
hfus	16.13	kJ/mol	Joback Method
hvap	50.10 ± 0.90	kJ/mol	NIST Webbook
hvap	49.50 ± 0.40	kJ/mol	NIST Webbook
ie	7.69 ± 0.05	eV	NIST Webbook
ie	7.69 ± 0.05	eV	NIST Webbook
ie	7.69 ± 0.03	eV	NIST Webbook
ie	7.80	eV	NIST Webbook

log10ws	-1.76		Crippen Method
logp	1.748		Crippen Method
mcvol	123.890	ml/mol	McGowan Method
pc	3254.14	kPa	Joback Method
rinpol	1017.90		NIST Webbook
rinpol	1025.50		NIST Webbook
ripol	1350.00		NIST Webbook
tb	454.00	K	NIST Webbook
tb	454.20	K	NIST Webbook
tc	648.92	K	Joback Method
tf	250.08	K	Joback Method
vc	0.450	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	260.43	J/mol×K	478.52	Joback Method
cpg	323.32	J/mol×K	648.92	Joback Method
cpg	312.29	J/mol×K	614.84	Joback Method
cpg	300.52	J/mol×K	580.76	Joback Method
cpg	287.98	J/mol×K	546.68	Joback Method
cpg	274.63	J/mol×K	512.60	Joback Method
cpg	245.34	J/mol×K	444.44	Joback Method
hvapt	48.90 ± 0.40	kJ/mol	308.00	NIST Webbook
rhol	808.20	kg/m3	398.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	868.90	kg/m3	328.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines

rhol	864.60	kg/m3	333.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	860.40	kg/m3	338.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	856.00	kg/m3	343.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	851.80	kg/m3	348.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	847.50	kg/m3	353.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	843.20	kg/m3	358.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	838.90	kg/m3	363.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines

rhol	834.60	kg/m3	368.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	830.20	kg/m3	373.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	825.90	kg/m3	378.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	821.50	kg/m3	383.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	817.10	kg/m3	388.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	812.70	kg/m3	393.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	873.20	kg/m3	323.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines

rhol	803.70	kg/m3	403.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	799.20	kg/m3	408.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	794.70	kg/m3	413.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	790.10	kg/m3	418.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	899.32	kg/m3	293.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	895.10	kg/m3	298.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	890.88	kg/m3	303.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines

rhol	886.65	kg/m3	308.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	882.42	kg/m3	313.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	878.18	kg/m3	318.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	873.94	kg/m3	323.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	869.68	kg/m3	328.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	865.43	kg/m3	333.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	861.16	kg/m3	338.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines

rhol	856.89	kg/m3	343.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	877.40	kg/m3	318.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	881.70	kg/m3	313.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	885.90	kg/m3	308.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	890.20	kg/m3	303.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	894.60	kg/m3	298.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	898.90	kg/m3	293.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines

rhol	903.20	kg/m3	288.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines
rhol	907.60	kg/m3	283.15	Measurement and Correlation for Acoustic, Transport, Refractive, and High-Temperature Volumetric Data of Substituted Benzylamines

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	456.70	K	102.00	NIST Webbook
tbrp	339.50 ± 0.50	K	2.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.41873e+01
Coeff. B	-3.72516e+03
Coeff. C	-6.74040e+01
Temperature range (K), min.	335.41
Temperature range (K), max.	487.10

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C103833&Units=SI

The Yaws Handbook of Vapor Pressure: https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Density, viscosity, refractive index and conductivity of switchable hydrophilicity solvent systems:	https://www.doi.org/10.1016/j.fluid.2017.12.005
Measurement and Correlation for Acoustic, Transport, Refractive, and Volumetric Data of N,N-Dimethylbenzylamine, Water and Substituted Benzylamines:	https://www.doi.org/10.1021/acs.jced.6b00667
Joback Method:	https://en.wikipedia.org/wiki/Joback_method

Legend

affp:	Proton affinity
basg:	Gas basicity
cpg:	Ideal gas heat capacity
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
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
rhol:	Liquid Density
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume