

Ammonium benzoate

Other names:	benzoic acid ammonium salt
Inchi:	InChI=1S/C7H6O2.H3N/c8-7(9)6-4-2-1-3-5-6;/h1-5H,(H,8,9);1H3
InchiKey:	VWSRWGFGAAKTQG-UHFFFAOYSA-N
Formula:	C7H9NO2
SMILES:	O=C([O-])c1ccccc1.[NH4+]
Mol. weight [g/mol]:	139.15

Physical Properties

Property code	Value	Unit	Source
af	0.3425		Cheméo Relay (1.0)
gf	-57.64	kJ/mol	Cheméo Relay (1.0, beta)
hf	-320.86	kJ/mol	Cheméo Relay (1.0)
hvap	63.94	kJ/mol	Cheméo Relay (1.0)
ie	9.74	eV	Cheméo Relay (1.0)
log10ws	-1.46		Cheméo Relay (1.0)
pc	4114.23	kPa	Cheméo Relay (1.0, beta)
tb	477.10	K	Cheméo Relay (1.0)
tc	608.89	K	Cheméo Relay (1.0)
tf	448.69	K	Cheméo Relay (1.0)
vc	0.274	m3/kmol	Cheméo Relay (1.0)

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cps	65.17	J/mol×K	80.23	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)

cps	66.19	J/mol×K	81.77	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	67.46	J/mol×K	84.03	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	68.89	J/mol×K	86.20	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	69.94	J/mol×K	88.38	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	71.51	J/mol×K	90.56	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	72.72	J/mol×K	92.57	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	74.19	J/mol×K	94.64	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)

cps	75.80	J/mol×K	96.64	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	77.01	J/mol×K	98.62	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	78.03	J/mol×K	100.55	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	79.33	J/mol×K	102.41	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	80.86	J/mol×K	104.34	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	81.80	J/mol×K	106.20	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	83.16	J/mol×K	107.97	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)

cps	84.27	J/mol×K	109.83	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	85.30	J/mol×K	111.60	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	86.37	J/mol×K	113.37	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	87.62	J/mol×K	115.15	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	88.74	J/mol×K	116.84	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	90.01	J/mol×K	118.61	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	91.47	J/mol×K	120.31	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)

cps	92.89	J/mol×K	122.97	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	94.89	J/mol×K	126.27	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	96.99	J/mol×K	129.18	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	98.85	J/mol×K	132.16	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	100.95	J/mol×K	135.06	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	102.77	J/mol×K	138.04	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	104.57	J/mol×K	141.02	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)

cps	106.24	J/mol×K	144.01	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	108.24	J/mol×K	147.00	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	110.50	J/mol×K	149.93	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	112.26	J/mol×K	152.90	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	113.91	J/mol×K	155.86	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	116.09	J/mol×K	158.85	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	118.15	J/mol×K	161.80	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)

cps	120.01	J/mol×K	164.77	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	121.97	J/mol×K	167.74	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	124.05	J/mol×K	170.72	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	125.52	J/mol×K	173.71	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	127.13	J/mol×K	176.67	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	129.42	J/mol×K	179.65	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	131.94	J/mol×K	183.76	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)

cps	134.20	J/mol×K	187.79	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	136.42	J/mol×K	190.78	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	138.62	J/mol×K	193.75	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	140.39	J/mol×K	196.71	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	142.17	J/mol×K	199.69	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	144.20	J/mol×K	202.71	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	146.13	J/mol×K	205.70	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)

cps	148.09	J/mol×K	208.67	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	149.94	J/mol×K	211.63	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	152.01	J/mol×K	214.62	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	153.98	J/mol×K	217.63	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	155.64	J/mol×K	220.61	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	157.46	J/mol×K	223.59	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	159.31	J/mol×K	226.57	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)

cps	161.33	J/mol×K	229.56	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	163.12	J/mol×K	232.46	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	164.85	J/mol×K	235.52	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	166.71	J/mol×K	238.67	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	169.25	J/mol×K	242.46	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	170.85	J/mol×K	246.17	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	172.58	J/mol×K	249.15	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)

cps	174.29	J/mol×K	252.13	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	176.25	J/mol×K	255.04	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	177.81	J/mol×K	258.02	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	179.36	J/mol×K	261.08	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	180.92	J/mol×K	264.07	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	182.91	J/mol×K	267.13	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	184.57	J/mol×K	270.11	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)

cps	186.50	J/mol×K	273.10	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	188.10	J/mol×K	276.05	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	189.37	J/mol×K	279.00	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	190.96	J/mol×K	281.97	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	192.56	J/mol×K	284.95	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	194.07	J/mol×K	287.93	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	195.71	J/mol×K	291.00	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)

cps	197.29	J/mol×K	293.98	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	199.56	J/mol×K	296.96	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	200.88	J/mol×K	299.95	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	203.11	J/mol×K	302.93	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	204.55	J/mol×K	305.83	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	205.93	J/mol×K	308.82	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	207.70	J/mol×K	311.72	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)

cps	209.41	J/mol×K	314.70	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	210.92	J/mol×K	317.68	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	212.63	J/mol×K	320.75	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	214.01	J/mol×K	323.73	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	215.52	J/mol×K	326.71	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	216.96	J/mol×K	329.78	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	218.80	J/mol×K	332.76	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)

cps	220.31	J/mol×K	335.75	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	222.08	J/mol×K	338.73	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	223.72	J/mol×K	341.71	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	225.36	J/mol×K	344.61	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	226.81	J/mol×K	347.60	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	228.38	J/mol×K	350.50	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	229.70	J/mol×K	353.48	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)

cps	231.21	J/mol×K	356.55	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	232.72	J/mol×K	359.53	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	234.10	J/mol×K	362.59	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	235.61	J/mol×K	365.58	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	237.58	J/mol×K	368.56	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	239.09	J/mol×K	371.54	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	240.86	J/mol×K	374.53	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)

cps	242.44	J/mol×K	377.51	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	243.95	J/mol×K	380.49	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	245.72	J/mol×K	383.40	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	247.56	J/mol×K	386.30	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	249.39	J/mol×K	389.28	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	251.17	J/mol×K	392.35	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	252.68	J/mol×K	395.33	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)

cps	254.12	J/mol×K	398.31	Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s)
cps	212.50	J/mol×K	323.00	NIST Webbook

Sources

Equilibrium solubilities of ammonium benzoate, benzamide and their mixture
Synthesis, Characterization, and Thermodynamic Study of Ammonium Benzoate C7H5O2NH4(s):
NIST Webbook

<https://www.doi.org/10.1016/j.fluid.2012.05.031>

<https://www.doi.org/10.1016/j.tca.2010.01.021>

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C1863634&Units=SI>

Cheméo Relay (1.0):

Cheméo Relay (1.0, beta):

Legend

af:	Acentric Factor
cps:	Solid phase heat capacity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hvap:	Enthalpy of vaporization at standard conditions
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
pc:	Critical Pressure
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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