Epinephrine

Other names:

(-)-3,4-Dihydroxy-a-[2-(methylamino)ethyl]benzyl alcohol
(-)-Adrenaline
(R)-4-[1-Hydroxy-2-(methylamino)ethyl]-1,2-benzenediol
(R)-Adrenaline
(R)-Epinephrine
1,2-Benzenediol, 4-[(1R)-1-hydroxy-2-(methylamino)ethyl]-
1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-
3,4-Dihydroxy-«alpha»-((methylamino)methyl)benzyl alcohol
3,4-Dihydroxy-Â«alphaÂ»-((methylamino)methyl)benzyl alcohol
4-(1-hydroxy-2-methylaminoethyl)benzene-1,2-diol
51-42-3 (tartrate)
Adnephrine
Adrenal
Adrenalin
Adrenalin in Oil
Adrenalin-Medihaler
Adrenaline
Adrenamine
Adrenapax
Adrenasol
Adrenatrate
Adrenine
Adrenodis
Adrenohorma
Adrenosan
Adrenutol
Adrin
Antiasthmatique
Asmatane mist
Asthma meter mist
Asthma-nefrin
Astmahalin
Astminhal
Balmadren
Benzyl alcohol, 3,4-dihydroxy-«alpha»-[(methylamino)methyl]-, (-)-
Benzyl alcohol, 3,4-dihydroxy-Â«alphaÂ»-[(methylamino)methyl]-, (-)-
Bernarenin
Biorenine
Bosmin
Brevirenin

Bronkaid
Bronkaid Mist
Chelafrin
Corisol
Drenamist
Dylephrin
Dyspne-Inhal
Epifrin
Epiglaufrin
Epinefrin
Epinefrina
Epinephran
Epirenamine
Epirenan
Epirenin
Eppy
Esphygmogenina
Exadrin
Glaucon
Glaucosan
Glauposine
Glycirenan
Haemostasin
Haemostatin
Hektalin
Hemisine
Hemostasin
Hemostatin
Hypernephrin
Hyporenin
Intranefrin
Kidoline
L-Adrenaline
L-Epinephrine
L-Epirenamine
L-Methylaminoethanolcatechol
Levo-Methylaminoethanolcatechol
Levoepinephrine
Levorenen
Levorenin
Levorenine
Lyodrin
Lyophrin

Metanephrin
Methylarterenol
Mucidrina
Myosthenine
Mytrate
Nephridine
Nieraline
Paranephrin
Primatene Mist
R-(-)-Epinephrine
RCRA waste number P042
Renagladin
Renaglandin
Renaglandulin
Renaleptine
Renalina
Renoform
Renostypricin
Renostypticin
Renostyptin
Scurenaline
Simplene
Sindrenina
Soladren
Sphygmogenin
Stryptirenal
Styptirenal
Supracapsulin
Supradin
Supranefran
Supranephrane
Supranephrine
Supranol
Suprarenaline
Suprarenin
Suprel
Surenine
Surrenine
Sus-phrine
Sympathin I
Takamina
Takamine
Tokamina

	Tonogen
	Vaponefrin
	Vasoconstrictine
	Vasoconstrictor
	Vasodrine
	Vasoton
	Vasotonin
	l-1-(3,4-Dihydroxyphenyl)-2-methylaminoethanol
	l-Adrenalin
	l-Epinephrine (synthetic)
Inchi:	InChI=1S/C9H13NO3/c1-10-5-9(13)6-2-3-7(11)8(12)4-6/h2-4,9-13H,5H2,1H3/t9-/m0/s1
InchiKey:	UCTWMZQNUQWSLP-VIFPVBQESA-N
Formula:	C9H13NO3
SMILES:	CNCC(O)c1ccc(O)c(O)c1
Mol. weight [g/mol]:	183.20
CAS:	51-43-4

Physical Properties

Property code	Value	Unit	Source
gf	-221.80	kJ/mol	Joback Method
hf	-451.22	kJ/mol	Joback Method
hfus	30.34	kJ/mol	Joback Method
hvap	86.66	kJ/mol	Joback Method
log10ws	-0.96		Aqueous Solubility Prediction Method
logp	0.351		Crippen Method
mcvol	141.500	ml/mol	McGowan Method
pc	5569.17	kPa	Joback Method
tb	735.15	K	Joback Method
tc	953.49	K	Joback Method
tf	484.65	K	Aqueous Solubility Prediction Method
vc	0.411	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source

cpg	403.12	J/mol×K	735.15	Joback Method
cpg	412.35	J/mol×K	771.54	Joback Method
cpg	421.20	J/mol×K	807.93	Joback Method
cpg	429.76	J/mol×K	844.32	Joback Method
cpg	438.17	J/mol×K	880.71	Joback Method
cpg	446.53	J/mol×K	917.10	Joback Method
cpg	454.97	J/mol×K	953.49	Joback Method

Sources

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

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C51434&Units=SI

Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

Joback Method: https://en.wikipedia.org/wiki/Joback_method

Aqueous Solubility Prediction Method: http://onschallenge.wikispaces.com/file/view/AqueousDataset002.xlsx/351826032/AqueousDa

Legend

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
log10ws: Log10 of Water solubility in mol/l
logp: Octanol/Water partition coefficient
mcvol: McGowan's characteristic volume
pc: Critical Pressure
tb: Normal Boiling Point Temperature
tc: Critical Temperature
tf: Normal melting (fusion) point
vc: Critical Volume