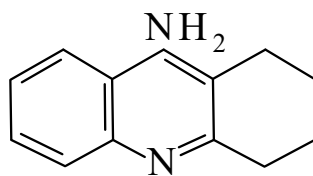




>>Entry Name: 9-Amino-1,2,3,4-tetrahydroacridine, 8Cl

Synonym(s): 1,2,3,4-Tetrahydro-9-acridinamine, 9Cl. **Tacrine**, BAN, INN. Cognex. Romotal. Tenakrin. T.H.A.



CAS Registry Number: 321-64-2

Molecular Formula: C₁₃H₁₄N₂

Molecular Weight: 198.267

Accurate Mass: 198.115698

Percentage Composition: C 78.75%; H 7.12%; N 14.13%

Use/Importance: Analeptic agent used to promote mental alertness; reported to be useful in treatment of Alzheimer's disease. Anticholinesterase activity. Protects neuronal acetylcholinesterase from inhibitory effects of organophosphorus compds. *in vivo*

Physical Description: Octahedra (EtOH aq.)

Development Status: Launched 1993 (US)

Melting Point: Mp 183-184°

Calculated Log P Data: Log P 3.27 (calc)

Hazard & Toxicity: LD₅₀ (mus, scu) 25 mg/kg. LD₅₀ (rat, orl) 103 mg/kg

Rare Chemicals Library: S45667-5

>>Derivative: Hydrochloride

Synonym(s): Tacrine hydrochloride, USAN

CAS Registry Number: 1684-40-8

Physical Description: Cryst. + 1H₂O

Melting Point: Mp 284-287° (hydrate)

Aldrich: 44738-2

Sigma: A3773

>>Derivative: N-Butyl

Synonym(s): Bucricaine, INN

CAS Registry Number: 316-15-4

Molecular Formula: C₁₇H₂₂N₂

Molecular Weight: 254.374

Accurate Mass: 254.178298

Percentage Composition: C 80.27%; H 8.72%; N 11.01%

Use/Importance: CNS stimulant, anticholinesterase

Melting Point: Mp 65°

Calculated Log P Data: Log P 5.66 (calc)

References:

- Albert, A. *et al.*, *J. Soc. Chem. Ind., London*, 1945, **64**, 169, (*synth*)
Moore, J. *et al.*, *Tet. Lett.*, 1963, **20**, 1277
Patnaik, G.K. *et al.*, *J. Med. Chem.*, 1966, **9**, 483, (*deriv*)
Fusek, J. *et al.*, *Act. Nerv. Super.*, 1974, **16**, 226, (*pharmacol*)
Konshin, M.E. *et al.*, *Khim.-Farm. Zh.*, 1974, **8**, 17, (*synth, pharmacol*)
Bielavsky, J., *Coll. Czech. Chem. Comm.*, 1977, **42**, 2802; 1980, **45**, 966, (*synth, props, bibl*)
Faure, R. *et al.*, *J. Chim. Phys. Phys.-Chim. Biol.*, 1981, **78**, 527, (*cmr*)
Hsieh, J.Y.K. *et al.*, *J. Chromatogr.*, 1983, **274**, 388, (*hplc*)
Girgis, N.S. *et al.*, *Synthesis*, 1985, 547, (*synth*)
Summers, W.K. *et al.*, *N. Engl. J. Med.*, 1986, **315**, 1241, (*pharmacol*)
Zacharias, D.E. *et al.*, *Acta Cryst. C*, 1988, **44**, 1656, (*cryst struct*)
Galli, A. *et al.*, *Arch. Toxicol.*, 1991, **65**, 330, (*AChE protection*)
Freeman, S.E. *et al.*, *Prog. Neurobiology*, 1991, **36**, 257, (*pharmacol, rev*)
Martindale, The Extra Pharmacopoeia, 30th edn., Pharmaceutical Press, 1993, 1121
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, TCJ075