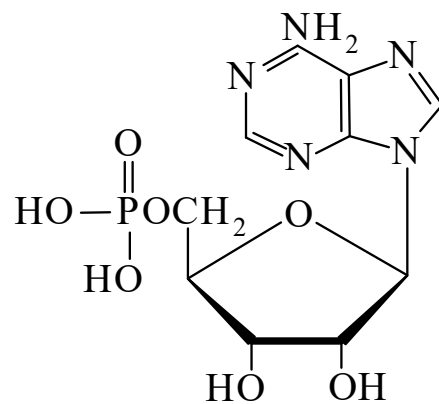




>>Entry Name: Adenylic acid, 9Cl, 8Cl

Synonym(s): Adenosine phosphate, BAN, INN, USAN. Adenosine 5'-phosphate. Adenosine 5'-monophosphate. Adenosine-5'-phosphoric acid. Muscle adenylic acid. AMP. 5'-Adenylic acid. Phosphaden. NSC 20264



CAS Registry Number: 61-19-8

Related CAS Registry Numbers(s): 485-84-7 4578-31-8 7384-99-8 13474-03-8 18422-05-4

Molecular Formula: C₁₀H₁₄N₅O₇P

Molecular Weight: 347.224

Accurate Mass: 347.063087

Percentage Composition: C 34.59%; H 4.06%; N 20.17%; O 32.25%; P 8.92%

Biological Source: Nucleoside widely distributed in nature. Isol. from muscle

Use/Importance: Has been used as an antiviral agent; nutrient

Melting Point: Mp 196-200°

Optical Rotation: $[\alpha]_D^{20} -47.5$ (c, 2.0 in 2% NaOH). $[\alpha]_D^{20} -26$ (c, 2.0 in 10% HCl)

pKa Value: pK_{a2} 3.74; pK_{a3} 6.05; pK_{a4} 13.1 (25°)

Other Data: $\lambda_{\max}$ 259 nm (ϵ 15 400) (H₂O). Component of numerous preparations

Hazard & Toxicity: Human systemic effects when used therapeutically incl. anaphylactoid reactions. Exp. reprod. effects. LD₅₀ (mus, ipr) 4000 mg/kg

>>Derivative: Acridine salt

Melting Point: Mp 208°

>>Derivative: 2',3'-O-Isopropylidene, 5'-dibenzylphosphate

Melting Point: Mp 97-98°

>>Derivative: 5'-Dibenzylphosphate

Melting Point: Mp 234 dec.°

References:

- Aldrich Library of FT-IR Spectra*, 1st edn., 1985, **2**, 723D, (ir)
Kerr, S.E., *J. Biol. Chem.*, 1941, **139**, 131, (synth)
Baddiley, J. *et al.*, *J.C.S.*, 1947, 648, (synth)
Yathindra, N. *et al.*, *Biopolymers*, 1973, **12**, 297, (conformn, cryst struct)
Sarma, R.H. *et al.*, *J.A.C.S.*, 1974, **96**, 7337, (pmr)
Norton, R.S. *et al.*, *J.A.C.S.*, 1976, **98**, 1007, (cmr)
Hampton, A. *et al.*, *J. Med. Chem.*, 1976, **19**, 1029
Martindale, The Extra Pharmacopoeia, 30th edn., Pharmaceutical Press, 1993, 1331
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, AOA125