



>>Entry Name: 2-Aminoethyl dihydrogen phosphate

Synonym(s): Ethanolamine *O*-phosphate. *O*-Phosphoethanolamine

CAS Registry Number: 1071-23-4

Related CAS Registry Numbers(s): 3724-89-8 18672-70-3 19077-76-0 31512-55-7 32607-10-6 37785-54-9 61020-38-0 63441-18-9 87111-65-7 131703-98-5

$\text{H}_2\text{NCH}_2\text{CH}_2\text{OP}(\text{O})(\text{OH})_2$

Molecular Formula: $\text{C}_2\text{H}_8\text{NO}_4\text{P}$

Molecular Weight: 141.063

Accurate Mass: 141.019096

Percentage Composition: C 17.03%; H 5.72%; N 9.93%; O 45.37%; P 21.96%

Use/Importance: Component of eye lens and toxins of gram-negative bacteria. Important in phosphoglyceride synth. in mammals

Physical Description: Cryst. (EtOH aq.)

Melting Point: Mp 242° (231.5-234°)

Aldrich: 29286-9

Fluka: 27640

Sigma: P0503

>>Derivative: Mono-Et ester

Synonym(s): Ethyl hydrogen 2-aminoethyl phosphate

Molecular Formula: $\text{C}_4\text{H}_{12}\text{NO}_4\text{P}$

Molecular Weight: 169.117

Accurate Mass: 169.050396

Percentage Composition: C 28.41%; H 7.15%; N 8.28%; O 37.84%; P 18.32%

Physical Description: Cryst. (EtOH/Me₂CO)

Melting Point: Mp 238°

>>Derivative: Diisopropyl ester

Synonym(s): Diisopropyl 2-aminoethyl phosphate

CAS Registry Number: 14646-04-9

Molecular Formula: $\text{C}_8\text{H}_{20}\text{NO}_4\text{P}$

Molecular Weight: 225.224

Accurate Mass: 225.112996

Percentage Composition: C 42.66%; H 8.95%; N 6.22%; O 28.42%; P 13.75%

Physical Description: Liq.

Boiling Point: Bp_{0.06} 75°

>>Derivative: Mono-Ph ester

Synonym(s): Phenyl hydrogen 2-aminoethyl phosphate

Molecular Formula: $\text{C}_8\text{H}_{12}\text{NO}_4\text{P}$

Molecular Weight: 217.161

Accurate Mass: 217.050396

Percentage Composition: C 44.25%; H 5.57%; N 6.45%; O 29.47%; P 14.26%

Physical Description: Solid

Solubility: V. sol. H₂O; spar. sol. EtOH; insol. C₆H₆, CHCl₃, Et₂O

References:

Plapinger, R.E. *et al.*, *J.A.C.S.*, 1953, **75**, 5757

Tsizin, Y.S. *et al.*, *Zh. Obshch. Khim.*, 1963, **33**, 2873; *J. Gen. Chem. USSR (Engl. Transl.)*, 1963, **33**, 2800, (*synth, ir*)

Greenhalgh, R. *et al.*, *Can. J. Chem.*, 1967, **45**, 495, (*diisopropyl ester, synth, ir, pmr, P nmr*)

Greiner, J.V. *et al.*, *Exp. Eye Res.*, 1982, **34**, 545, (*P-31 nmr*)

Glonek, T. *et al.*, *J. Neurochem.*, 1982, **39**, 1210, (*P-31 nmr*)

Trigalo, F. *et al.*, *J.C.S. Perkin I*, 1982, 1733, (*monoethyl ester*)

Weber, H.P. *et al.*, *Acta Cryst. B*, 1984, **40**, 506, (*cryst struct*)

Cates, L.A. *et al.*, *J. Med. Chem.*, 1984, **27**, 654, (*synth*)

Hayase, Y. *et al.*, *Chem. Pharm. Bull.*, 1986, **34**, 2251, (*isol, ir, pmr, cmr*)

Bissinger, P. *et al.*, *Chem. Ber.*, 1991, **124**, 509, (*synth, salts, cryst struct*)