



>>Entry Name: Lithium metaphosphate, 9Cl, 8Cl

CAS Registry Number: 13762-75-9

Related CAS Registry Numbers(s): 100645-08-7 100645-09-8 100645-10-1 100645-11-2
(LiPO₃)_x

Molecular Formula: LiO₃P

Molecular Weight: 85.913

Accurate Mass: 85.97451

Percentage Composition: Li 8.08%; O 55.87%; P 36.05%

has been fully characterised

Source/Synthesis: Synth. from Li₂CO₃ + (NH₄)₂HPO₄

Aldrich: 44267-4

>>Derivative: Monohydrate

CAS Registry Number: 60789-72-2

Other Data: Exists in two cryst. forms with transition temp. 250°

>>Variant: Monomeric-form

Molecular Formula: LiO₃P

Molecular Weight: 85.913

Accurate Mass: 85.97451

Percentage Composition: Li 8.08%; O 55.87%; P 36.05%

Source/Synthesis: Isol. in nitrogen or argon matrix, from the heating of Li₃PO₄ at *ca.* 1000-1400°

>>Variant: Polymer I-form

Molecular Formula: LiO₃P

Molecular Weight: 85.913

Accurate Mass: 85.97451

Percentage Composition: Li 8.08%; O 55.87%; P 36.05%

Source/Synthesis: Synth. by heating LiH₂PO₄ at 210°

>>Variant: Polymer II-form

Molecular Formula: LiO₃P

Molecular Weight: 85.913

Accurate Mass: 85.97451

Percentage Composition: Li 8.08%; O 55.87%; P 36.05%

Source/Synthesis: Synth. by heating LiH₂PO₄ at >250°

Melting Point: Mp 630°

References:

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Mehrotra, R.C. *et al.*, *Indian J. Chem.*, 1972, **10**, 726, (*ir, P-31 nmr*)
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Guitel, J.C. *et al.*, *Acta Cryst. B*, 1976, **32**, 2960, (*cryst struct*)
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Benkhoucha, R. *et al.*, *Acta Cryst. B*, 1979, **35**, 265, (*cryst struct*)
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Schuelke, U. *et al.*, *Z. Anorg. Allg. Chem.*, 1985, **531**, 167, (*synth*)
Shimasaki, C. *et al.*, *Bull. Chem. Soc. Jpn.*, 1987, **60**, 3050, (*synth, P-31 nmr, cryst struct*)
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