>>**Entry Name: Triisopropylphosphine,** 8CI
Synonym(s): Tris(1-methylethyl)phosphine, 9CI

CAS Registry Number: 6476-36-4

$P[CH(CH_3)_2]_3$

Molecular Formula: $C_9H_{21}P$
Molecular Weight: 160.239
Accurate Mass: 160.138087
Percentage Composition: C 67.46%; H 13.21%; P 19.33%
Use/Importance: Reduces aldehydes and ketones to hydrocarbons
Physical Description: Air-sensitive liq.
Melting Point: Mp –72°
Boiling Point: Bp 176-178°. Bp_{22} 81°
Hazard & Toxicity: Vigorous reaction with peroxides, ozonides, *N*-oxides and also $CHCl_3$

Aldrich: 37730-9
Fluka: 92093

>>**Derivative:** Methiodide
Synonym(s): Triisopropylmethylphosphonium iodide

Molecular Formula: $C_{10}H_{24}IP$
Molecular Weight: 302.178
Accurate Mass: 302.066035
Percentage Composition: C 39.75%; H 8.01%; I 42.00%; P 10.25%
Physical Description: Solid
Melting Point: Mp 360°

>>**Derivative:** Oxide

CAS Registry Number: 17513-58-5

Molecular Formula: $C_9H_{21}OP$
Molecular Weight: 176.238
Accurate Mass: 176.133002
Percentage Composition: C 61.34%; H 12.01%; O 9.08%; P 17.57%
Physical Description: Liq. solidifying at r.t.
Boiling Point: Bp_{12} 126-130°. $Bp_{0.8}$ 110-114°

>>**Derivative:** Sulfide

CAS Registry Number: 17513-59-6

Molecular Formula: $C_9H_{21}PS$
Molecular Weight: 192.305
Accurate Mass: 192.110157
Percentage Composition: C 56.21%; H 11.01%; P 16.11%; S 16.67%
Physical Description: Solid
Melting Point: Mp 35°

References:

Aldrich Library of 13C and 1H FT NMR Spectra, 1992, **1**, 1460A, *(nmr)*
Davies, W.C., *J.C.S.*, 1933, 1043, *(synth)*
Fluck, E. *et al.*, *Z. Naturforsch., B*, 1967, **22**, 1095, *(P-31 nmr, derivs)*
Cowley, A.H. *et al.*, *J.A.C.S.*, 1969, **91**, 2915, *(synth, ir, pmr)*
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 356; 1992, **16**, 360, *(use)*
Kincaid, J. *et al.*, *Spectrochim. Acta A*, 1974, **30**, 2091, *(oxide, sulfide, synth, ir, pmr, complexes)*
Petrushanskaya, N.V. *et al.*, *Zh. Org. Khim.*, 1974, **10**, 1402; *J. Org. Chem. USSR (Engl. Transl.)*, 1974, **10**, 1414, *(use, complexes)*
Chervin, I.I. *et al.*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, **30**, 1769; *Bull. Acad. Sci. USSR, Div. Chem. Sci. (Engl. Transl.)*, 1981, **30**, 1438, *(P-31 nmr)*
Inoue, H. *et al.*, *Z. Naturforsch., B*, 1985, **40**, 22, *(P-31 nmr, Mössbauer)*
Kuhn, N. *et al.*, *Z. Naturforsch., B*, 1990, **45**, 1010, *(selenide, telluride, pmr, cmr, P-31 nmr, Se-77 nmr, Te-127 nmr)*
Bretherick, L., *Handbook of Reactive Chemical Hazards, 4th edn., Butterworths*, 1990, 3011