>>**Entry Name: Tetraphenylphosphonium(1+)**

CAS Registry Number: 18198-39-5
Related CAS Registry Numbers(s): 87856-17-5 112368-31-7 117932-85-1 117932-86-2 123557-24-4 147134-45-0
$[PPh_4]^{(+)}$

Molecular Formula: $C_{24}H_{20}P^{(+)}$
Molecular Weight: 339.396
Accurate Mass: 339.130262
Percentage Composition: C 84.93%; H 5.94%; P 9.13%

>>**Derivative:** Chloride

CAS Registry Number: 2001-45-8

Molecular Formula: $C_{24}H_{20}ClP$
Molecular Weight: 374.848
Accurate Mass: 374.099114
Percentage Composition: C 76.90%; H 5.38%; Cl 9.46%; P 8.26%
Use/Importance: Used as 5m*M* $CHCl_3$ soln. for extraction of $ReO_4^{(-)}$, $Mo/SCN^{(-)}$, $Nb/C_2O_4^{2(-)}$, $Ti(SCN)_6^{2(-)}$
Physical Description: Cryst. ($EtOH/Et_2O$)
Melting Point: Mp 265-267°. Mp 272°
Solubility: Sol. H_2O, $CHCl_3$
Aldrich: 21879-0
Fluka: 88060

>>**Derivative:** Bromide

CAS Registry Number: 2751-90-8

Molecular Formula: $C_{24}H_{20}BrP$
Molecular Weight: 419.3
Accurate Mass: 418.068598
Percentage Composition: C 68.75%; H 4.81%; Br 19.06%; P 7.39%
Use/Importance: Used as 1% aq. soln. for colorimetric detn. of Bi, Co; for extraction of heavy metals; photometric detn. of Ti
Physical Description: Cryst. + $2H_2O$ (H_2O or $MeOH/Et_2O$)
Melting Point: Mp 287-289°. Mp 295-298°
Solubility: Sol. H_2O, common org. solvs.
Other Data: Forms CBr_4 adduct, also a tribromide
Aldrich: 21878-2
Fluka: 88045

>>**Derivative:** Iodide

CAS Registry Number: 2065-67-0

Molecular Formula: $C_{24}H_{20}IP$
Molecular Weight: 466.3
Accurate Mass: 466.034735
Percentage Composition: C 61.82%; H 4.32%; I 27.22%; P 6.64%
Physical Description: Cryst. ($CHCl_3/C_6H_6$ or $MeOH/Et_2O$)
Melting Point: Mp 337° (330-332°)
Aldrich: 21880-4
Fluka: 88063

>>**Derivative:** Tribromide

CAS Registry Number: 3138-57-6

Molecular Formula: $C_{24}H_{20}Br_3P$
Molecular Weight: 579.108
Accurate Mass: 575.94527
Percentage Composition: C 49.78%; H 3.48%; Br 41.39%; P 5.35%
Physical Description: Orange needles
Melting Point: Mp 240-242°

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