
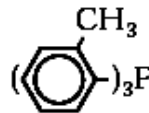
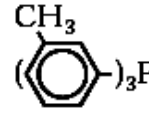

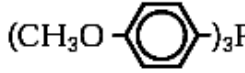
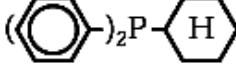
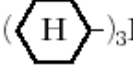
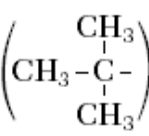

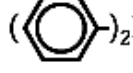
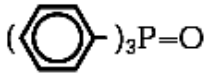
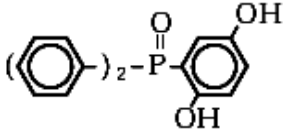


1 Organophosphines

| CHEMICAL NAME | STRUCTURE | CAS NO. |
|---|--|------------|
| [Phosphines] | | |
| Triphenylphosphine |  | 603-35-0 |
| Tri- <i>o</i> -tolylphosphine |  | 6163-58-2 |
| Tri- <i>m</i> -tolylphosphine |  | 6224-63-1 |
| Tri- <i>p</i> -tolylphosphine |  | 1038-95-5 |
| Tris(<i>p</i> -methoxyphenyl)phosphine |  | 855-38-9 |
| Diphenylcyclohexylphosphine |  | 6372-42-5 |
| Tricyclohexylphosphine |  | 2622-14-2 |
| Tributylphosphine | $(C_4H_9)_3P$ | 998-40-3 |
| Tri- <i>tert</i> -butylphosphine |  | 13716-12-6 |
| Tri- <i>n</i> -octylphosphine | $(n-C_8H_{17})_3P$ | 4731-53-7 |
| Diphenylphosphinostyrene |  | 40538-11-2 |
| Diphenylphosphinouschloride |  | 1079-66-9 |

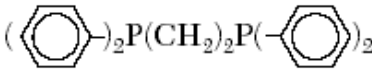
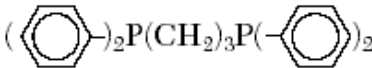
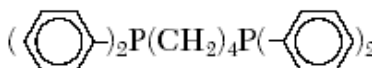
1 Organophosphines

| CHEMICAL NAME | STRUCTURE | CAS NO. |
|-------------------------------------|--|------------|
| 【 Phosphine Oxides 】 | | |
| Tri- <i>n</i> -octylphosphine oxide | $(n - C_8H_{17})_3P=O$ | 78-50-2 |
| Triphenylphosphine oxide |  | 791-28-6 |
| Diphenylphosphinyl hydro-quinonee |  | 13291-46-8 |

1 Organophosphines

| CHEMICAL NAME | STRUCTURE | CAS NO. |
|---|--|-------------|
| 【 Phosponium Salts 】 | | |
| Tetrabutylphosponium bromide | $(C_4H_9)_4P^{\oplus} Br^{\ominus}$ | 3115-68-2 |
| Tetrabutylphosponium hydroxide 40%water solution | $(C_4H_9)_4P^{\oplus} OH^{\ominus}$ | 14518-69-5 |
| Tetrabutylphosponium acetate 40%water solution | $(C_4H_9)_4P^{\oplus} OCOCH_3^{\ominus}$ | 30345-49-4 |
| Tetraphenylphosponium bromide | $(\text{C}_6\text{H}_5)_4P^{\oplus} Br^{\ominus}$ | 2751-90-8 |
| Methyl triphenylphosponium bromide | $CH_3(\text{C}_6\text{H}_5)_3P^{\oplus} Br^{\ominus}$ | 1779-49-3 |
| Ethyl triphenylphosponium bromide | $C_2H_5(\text{C}_6\text{H}_5)_3P^{\oplus} Br^{\ominus}$ | 1530-32-1 |
| <i>n</i> -Butyl triphenylphosponium bromide | $n-C_4H_9(\text{C}_6\text{H}_5)_3P^{\oplus} Br^{\ominus}$ | 1779-51-7 |
| Methoxymethyl triphenylphosponium chloride | $CH_3OCH_2(\text{C}_6\text{H}_5)_3P^{\oplus} Cl^{\ominus}$ | 4009-98-7 |
| Benzyl triphenylphosponium chloride | $\text{C}_6\text{H}_5-CH_2(\text{C}_6\text{H}_5)_3P^{\oplus} Cl^{\ominus}$ | 1100-88-5 |
| Tetraphenylphosponium tetraphenylborate | $(\text{C}_6\text{H}_5)_4P \cdot B(\text{C}_6\text{H}_5)_4$ | 15525-15-2 |
| Tetraphenylphosponium tetra- <i>p</i> -tolylborate | $(\text{C}_6\text{H}_5)_4P \cdot B(\text{C}_6\text{H}_4-CH_3)_4$ | 181259-35-8 |
| Tri- <i>tert</i> -butylphosponium tetraphenylborate | $(tert-C_4H_9)_3PHB(\text{C}_6\text{H}_5)_4$ | 131322-08-2 |
| Triphenylphosphine triphenylborane | $(\text{C}_6\text{H}_5)_3P \cdot B(\text{C}_6\text{H}_5)_3$ | 3053-68-7 |

1 Organophosphines

| CHEMICAL NAME | STRUCTURE | CAS NO. |
|------------------------------------|--|-----------|
| 【 Diphosphines 】 | | |
| 1,2-Bis(diphenylphosphino) ethane |  | 1663-45-2 |
| 1,3-Bis(diphenylphosphino) propane |  | 6737-42-4 |
| 1,4-Bis(diphenylphosphino) butane |  | 7688-25-7 |