



>>Entry Name: **Methylphosphonothioic acid**

Synonym(s): Thiomethanephosphonic acid

CAS Registry Number: 5994-73-0

$\text{MeP(S)(OH)}_2 \ll \gg \text{MeP(O)(OH)(SH)}$

Molecular Formula: $\text{CH}_5\text{O}_2\text{PS}$

Molecular Weight: 112.089

Accurate Mass: 111.974787

Percentage Composition: C 10.72%; H 4.50%; O 28.55%; P 27.63%; S 28.61%

Other Data: Has not been isol. pure

>>Derivative: *O*-Me ester

>>Derivative: *O*-Et ester

>>Derivative: *O*-Isopropyl ester

>>Variant: Thiophosphoryl-form

Molecular Formula: $\text{CH}_5\text{O}_2\text{PS}$

Molecular Weight: 112.089

Accurate Mass: 111.974787

Percentage Composition: C 10.72%; H 4.50%; O 28.55%; P 27.63%; S 28.61%

>>Derivative: *O*-Me, chloride

>>Derivative: *O,O*-Di-Me ester

Synonym(s): *O,O*-Dimethyl methylphosphonothioate

CAS Registry Number: 681-06-1

Molecular Formula: $\text{C}_3\text{H}_9\text{O}_2\text{PS}$

Molecular Weight: 140.143

Accurate Mass: 140.006087

Percentage Composition: C 25.71%; H 6.47%; O 22.83%; P 22.10%; S 22.88%

Use/Importance: Li deriv employed in synth. of substituted methylphosphonothioate esters

Physical Description: Liq.

Boiling Point: Bp_4 40°

Density: d_4^{25} 1.14

Refractive Index: n_D^{25} 1.4744

>>Derivative: *O*-Et, chloride

>>Derivative: *O,O*-Di-Et ester

Synonym(s): *O,O*-Diethyl methylphosphonothioate

CAS Registry Number: 6996-81-2

Molecular Formula: $\text{C}_5\text{H}_{13}\text{O}_2\text{PS}$

Molecular Weight: 168.196

Accurate Mass: 168.037387

Percentage Composition: C 35.71%; H 7.79%; O 19.02%; P 18.42%; S 19.06%

Use/Importance: Li deriv. employed in synth. of substd. phosphonothioate esters

Physical Description: Liq.

Boiling Point: Bp_{14} 77-79°

Density: d_4^{25} 1.05